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 HEADING
3. GUARD RAILS ARE RACED 1" AND FORM A 1 3/8" FLANGEWAY
4. COORDINATE SWITCH MACHINE AND MACHINE PLATE (MES) WITH CALTRANS
5. ALL THE LENGTHS SHALL INCLUDE 1 1/2" FROM THE END TO RAIL CENTERLINE EXCEPT AS NOTED AND 1 1/8" GANGED TIES
6. TIGHTEN THE SCREW WITH DOUBLE CORE SPRING WASHER IN PLACE
7. SCHERRAD ROLLERS SHALL BE INSTALLED AND ADJUSTED IN THE FIELD

TURNOUT DATA:
NOTES:
1. ALL RAILS SHALL HAVE IDENTIFICATION COLOR CODE PAINTED ON RED, CLEAR OF JOINT AREA.
2. RAIL LENGTHS ALLOW 1/8" GAP BETWEEN RAIL JOINTS FOR WELDING.
3. GUARD RAILS ARE PALMED 1" AND FORM A 1-7/8" PLANDERMAY.
4. COORDINATE SWITCH MACHINE AND MACHINE PLATE (MTP) WITH CALTRAIN.
5. ALL THE LENGTHS INCLUDE 1/16" FROM THE ENDS TO RAIL CENTERLINE, EXCEPT AS NOTED, AND 1-1/2" CANNOT PASS.
6. TIES MUST BE SCREWED WITH DOUBLE COIL SPRING WASHER IN PLACE.
7. SPACERS ROLLERS SHALL BE INSTALLED AND ADJUSTED IN THE FIELD.

TURNOUT DATA:

<table>
<thead>
<tr>
<th>PROD NO</th>
<th>LENGTH</th>
<th>RAIL LENGTH</th>
<th>CANTILEVERED JOINT</th>
<th>MTP</th>
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<td>35-5/16</td>
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</table>

PENINSULA CORRIDOR JOINT POWERS BOARD

STANDARD DRAWINGS

SPECIAL TRACKWORK
NO 20 TURNOUT
NO 20 RH TURNOUT WITH WRM FROG AND HST SWITCH MACHINE ON MARINE SIDE

SIGNATURES

[Signatures]
Notes:
1. All rails shall have identification color code painted on heel, clean of joint area.
2. Rail lengths allow 1/2 ft gap between rail joints for welding.
3. Guard rails are raised 1" and form a 1 7/8" flangeway.
4. Coordinate switch machine and machine plate (not) with Caltrain.
5. All tie lengths shall include 1" from the dogs to rail centerline, except as noted and 1 800 Canted Tie.
6. Plates tie screws with double coil spring washer in place.
7. Shimming rollers shall be installed and adjusted in the field.

Turnout Data:
- Track:
  - Switch: 20°
  - Length of Point: 47'-6" / 47'-5"
  - Track Length: 27'-5/8"
  - Total Length: 47'-8"
- Actual Lead: 167'-4"
- Closest Axle: 167'-4"
- Closest Radius: 3300'-5"
- Degree of Curve: 735'3"
- Design Speed: 50 mph
- End of Track: 735'3"
- Unclass: 735'3"

Peninsula Corridor Joint Powers Board

Special Drawings
No 20 Turnout
With 90° Fag and HST Switch Machine ON Turnout Side
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<th>REV</th>
<th>QTY</th>
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**NOTES:**

1. SEE DRAWING 20-30-30 FOR THE LOCATION DIMENSIONS.
2. SWITCH RODS SHALL BE PREPARED TO DIMENSIONS SHOWN IN DRAWING 20-30-30. MODIFY SPREADS AS NEEDED WHEN INSTALLING INTO LAYOUT.
NOTES:
1. SEE DRAWING SD-3275 FOR RAIL LOCATION DIMENSIONS
2. SWITCH HOES SHALL BE PRE-LOCATED TO DIMENSIONS SHOWN IN DETAIL FOR EACH SPECIFIC LOCATIONAL SPECIFY SPREADS AS NEEDED WHEN DEPLOYING INTO DETAIL

TYPICAL BOLTED BRACE ASSEMBLY

TYPICAL SWITCH HEEL ASSEMBLY

PENINSULA CORRIDOR JOINT POWERS BOARD

STANDARD DRAWINGS

SPECIAL TRACKWORK
NO. 20 TURNOUT
LH SWITCH PACK WITH HST
SWITCH MACHINE ON TURNOUT SIDE
## Bill of Material

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## NOTES:
1. See drawing 50-2710 for the location dimensions.
2. Switch box shall be preadjusted to dimensions shown in detail for each box location, height spread as necessary when installing into layout.
NOTES:

1. ALL BURNT METHODS PROMULGATED

2. ALL BURNT WELDS SHALL BE DEBURR PER DETAIL

3. POINT OF MACHINING SHALL BE MARKED ON ONE SIDE OF RAIL WITH A
   WHITE LINE USING WATERPROOF MARKER OR PAINT

4. WRITE CALTRAIN SO NUMBER ON ONE SIDE OF RAIL WITH WATERPROOF
   MARKER OR PAINT
RAIL END / HOLE BEVELING DETAILS

RAIL HEAD ONLY - NOT BASE

NOTES:
1. ALL BURNING METHODS PROHIBITED
2. ALL HOLE MALLETS SHALL BE BEVELED PER DETAIL
3. POINT OF HOLE MALLETS SHALL BE MARKED ON GAUGE SIDE OF HEAD
   WITH A WHITE LINE USING WATERTIGHT MARKER OR PAINT
4. WRITE CALTRAI 20 NUMBER ON HEAD OF RAIL WITH WATERTIGHT MARKER OR PAINT

PENINSULA CORRIDOR JOINT POWERS BOARD
STANDARD DRAWINGS
SPECIAL TRACKWORK
NO 20 TURNOUT
SAMSON STOCK RAIL RH TURNOUT
RH 69-8" LONG

DRAWN BY:
CHECKED BY:
APPROVED BY:

Caltrain

1234 Exchange Drive
San Jose, CA 95134

(408) 220-3620
www.caltrain.com
NOTES:
1. SET SHALL INCLUDE TIES 0, 3 THROUGH 6, 8 THROUGH 11, 13 THROUGH 15 AND 17 THROUGH 29.
   THESE TIES CARRIED TIES PLATE TIE PLATE AND RUN INSPECTS.
2. TIE LOCATIONS ARE DETERMINED BY ADDING 3/16 IN. FROM GAUGE LINE OR 3/16 IN. FROM RAIL.
   LOCATIONS FOR TIES AT THE CENTER 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 4-1/2" TIE PLATING.
   BETWEEN STRAIGHT RAIL SEAT GAUGE LENGTH SHALL BE 3-1/3." TIE PLATING.
5. THE DRAWING SHOWS THE "O" DEPTH PLACEMENT FOR SWITCH MACHINE ON RH/TURNOUT SIDE. USE OPPOSITE
   SIDE FOR SWITCH MACHINE ON LH/TURNOUT SIDE.
6. SEE BILL OF MATERIALS ABOVE FOR TIES 1, 2, 12 AND 16.
NOTES:
1. TIES SMALL INCLUSIVE (2) 8 THROUGH 5, 8 THROUGH 15, 12 THROUGH 19 AND 17 THROUGH 21, THREE 1 80 CANTED TIES PLACED AT THE HEADS AND 90 DEGREES.
2. NAIL LENGTHS ARE DETERMINED IN TIES #16 AND 3 4 IN. FROM RAIL GAUGE LINE (OR 1 8 IN. FROM RAIL CENTERLINE) TIED AT THE EXTREME OF EACH TIE LOCATION.
3. ALL TIES ARE FLAT (NON-CANTED) EXCEPT 1 80 CANTED TIES.
4. TRANSITION TIES (QUANTITY 3) SMALL INCLUSIVE 1 80 CANTED RAIL SEATS AND USE 4-B 1/2" NAILS PLACED AT THE HEADS FOR TIES #8 THROUGH 21, PLACED AT 3/4" BETWEEN STRAIGHT RAIL SEAT GAUGES. LENGTH SHALL BE 18 3/4".
5. THE DURATION SHOWS DEGREE OF PLACEMENT FOR SALT MACHINE ON LH/TURNOUT SIDE. USE OPPOSITE HAND FOR SALT MACHINE ON RH/TURNOUT SIDE.
6. SEE ALL OF MATERIALS ABOVE FOR TIES 1, 7, 12 AND 18.
| ITEM | QTY | DESCRIPTION                                                                 | DRAW NO. |  | ITEM | QTY | DESCRIPTION                                                                 | DRAW NO. |
|------|-----|------------------------------------------------------------------------------|-----------|----|------|------------------------------------------------------------------------------|-----------|
| 1    | 1   | ROOFING ASSEMBLY FOR NO 20-36 L/H TIE, SWITCH MACHINE ON RH SIDE            | SD-2744  |    | 13   | 10  | LV BRACE FOR LH TIE                                                        | -         |
| 2    | 1   | MOLLENO TIE ASSEMBLY (LH-20=20=20=36)                                       | -         |    | 14   | 10  | SEPARATE HINGE FOR LV BRACE                                                 | -         |
| 3    | 1   | MOLLENO TIE ASSEMBLY (RH-20=20=20=36)                                       | -         |    | 15   | 10  | CLIP PAVEMENT, EGDSS                                                         | -         |
| 4    | 1   | MOLLENO TIE ASSEMBLY (LH-20=20=20=36)                                       | -         |    | 16   | 10  | CLIP PAVEMENT, EGDSS                                                         | -         |
| 5    | 1   | MOLLENO TIE ASSEMBLY (RH-20=20=20=36)                                       | -         |    | 17   | 10  | HINGE, HINGE, UPRIGHT TYPE 4-LH                                              | -         |
| 6    | 1   | MOLLENO TIE ASSEMBLY (LH-20=20=20=36)                                       | -         |    | 18   | 10  | STEEL COVER PLATE FOR LH TIE, SHORT TOP VERSION                             | -         |
| 7-1  | 10  | COVER PLATE NO. 1, MOLLENO TIE RE                                                  | 10-1500  |    | 19   | 6   | STEEL COVER PLATE FOR LH TIE, TOP END                                        | -         |
| 8-1  | 10  | COVER PLATE NO. 2, MOLLENO TIE RE                                                  | 10-1500  |    | 20   | 6   | HINGE, HINGE, EGDSS                                                          | -         |
| 9-1  | 10  | COVER PLATE NO. 3, MOLLENO TIE RE                                                  | 10-1500  |    | 21   | 6   | HINGE, HINGE, EGDSS                                                          | -         |
| 10   | 40  | PUSH PIN ASSEMBLY FOR HINGE COVERS                                                | 10-1505  |    | 22   | 4   | HINGE, HINGE, EGDSS                                                          | 10-1500   |
| 11   | 6   | STEEL TIE END COVER PLATE ASSEMBLY FOR LH TIE                                    | 10-1500  |    | 23   | 2   | HINGE, HINGE, EGDSS                                                          | 10-1500   |
| 12   | 12  | COVER SUPPORT BRACKET                                                             | -         |    | 24   | 1   | PILLAR BLOCK MOUNTING PLATE                                                  | -         |

NOTES:
1. COORDINATE SWITCH MACHINE AND MACHINE PLATES WITH CALTRAIN
### Bill of Material

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### Dimensions at Gauge Elevation

- **Scale:** km

### Flat Rail Spacer Mounting Details

**Typical 3 Places**

- **Section:** Scale: km

### Spring Box Mounting Details

- **Section:** Scale: km

### Retarder Mounting Details

- **Section:** Scale: km

### Horn and Keeper Mounting Details

- **Section:** Scale: km

### Notes:

1. Retarder closing time range from 1 to 3 minutes.
2. Spring box x 240 is 330 lb/ft.
3. Spring wire shall be thrown to 1 7/8" plunger at the 3/4 point to determine the spring wire thrown position.
4. Flat rail spacer (item No 25) shall be held above shown, up against spring wire when fully thrown.
5. Rail end drilled shall be 0.9" and 12 1/2", 3 3/32" above rail base, 1 5/16" OA at all 1 rail ends. All rail base holes shall be crowned with 0.1/32" R.

---

### Peninsula Corridor Joint Powers Board

**STANDARD DRAWINGS**

- **SD No:** 2U-1730
- **Date:** 08/2001

- **Title:** Special Trackwork
- **SD No:** 2U-1730
- **Description:** No 20 Turnout WSM Frog LH. And Frog Pack
1. Ed. Contacts shall be 1/2" minimum height clearly stamped as shown.
2. Holes shall be drilled flush with shoulder & not to protrude into rail seat.
3. Drilled hole centers are indicated on drawing.

FROG BASE PLATE 20-136-75RC

FROG BASE PLATE 20-136-76RC

FROG BASE PLATE 20-136-77RC
FROG BASE PLATE 20-136-78LC

NOTES:
1. ALL DIMENSIONS ARE IN INCHES
2. TIES SHALL BE PLACED AT A MAXIMUM DISTANCE OF 9 INCHES PLUS OR MINUS A 1/8 INCH
3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING
FROG BASE PLATE 20–136–75RC

NOTES:
1. LD CHARACTERS SHALL BE 1/2" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
2. WELDS SHALL BE DRESSED FLUSH WITH SHOULDERS & NOT TO PRODUCE RING RAIL SEAT.
3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING.
NOTES:
1. E.I. CHARACTERS SHALL BE 1/8" MINIMUM HEIGHT
   CLEARLY STAMPED AS SHOWN
2. HOLES SHALL BE DRILLED RUSH WITH SHOULDER & NOT
   TO PROTRUDE INTO HILLET.
3. OPENINGS IN HOLE CAPTURE BLOCKS SHALL BE FREE OF
   RFID AND SPLATTER.
4. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING

FORGED SHOULDER WELDING DETAIL

FROG BASE PLATE 20-136-83LC
NOTES:

1. CHARACTERS SHALL BE 1/2" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
2. WELDS SHALL BE OXIDE SURFACE WITH SHOULDERS AND NOT TO PROTRUDE INTO RAIL SEAT.
3. OPENINGS IN BOLT CAPTURE BLOCKS SHALL BE FREE OF HOLE AND SPATTER.
4. TOLERANCE FOR CLEARANCE HOLE ON CLIP.

FROG BASE PLATE 20-136-88LC

FORGED SHOULDER WELDING DETAIL
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<th>REV</th>
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<td>KNOB, HANDLE, FORGED STEEL, TYPE I</td>
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<td>BURNT STEEL, 1/2&quot; THICK, THICKNESS 2 1/8&quot; TO 2 1/4&quot; x 6&quot; LONG</td>
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**NOTES:**
1. ID CHARACTERS SHALL BE 1/2" MINIMUM HEIGHT CLEARLY STAMPED AS SHOWN.
2. PLUGS SHALL BE CHISELED FLUSH WITH TRACK AND NOT TO PROTRUDE INTO RAIL SEAT.
3. SLOTTED HOLE CENTERS ARE LOCATED ON DRAWING.

**FORGED SHOULDER WELDING DETAIL**

**FROG BASE PLATE 20-136-93LC**

**FROG BASE PLATE 20-136-94LC**

**FROG BASE PLATE 20-136-95LC**
NOTES:
1. I.D. CHARACTERS SHALL BE 1/2" MINIMUM HEIGHT CLEARLY STATED AS SHOWN
2. HOLES SHALL BE DREADED FLUSH WITH SHOULDERS & NOT TO PROTRUD INTO HAIL SEAT
3. SLOTTED HOLE CENTERS ARE INDICATED ON DRAWING

FROG BASE PLATE 20-136-93RC

FROG BASE PLATE 20-136-94RC

FROG BASE PLATE 20-136-95RC
FORGED SHOULDER WELDING DETAIL

NOTES:
1. HO CHARACTERS SHALL BE 1/16" HIGH APROX. STAMPED AS SHOWN
2. NEEDS TO BE SLEDGED FLUSH WITH SHOULDER A
3. NOT TO PROCEED INTO RAISE SEAT
4. PLUGGED HOLE CENTERS ARE INDICATED ON DRAWING

FROG BASE PLATE 20-136-96LC

FROG BASE PLATE 20-136-97LC

PENINSULA CORRIDOR JOINT POWERS BOARD
STANDARD DRAWINGS

SPECIAL TRACKWORK
NO. 20 TURNOUT
WSM FROG L/H
FROG BASE PLATES 20-96LC & 20-97LC

SPECIAL TRACKWORK
NO. 20 TURNOUT
WSM FROG L/H
FROG BASE PLATES 20-96LC & 20-97LC
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<td>3</td>
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<td>SHOULDERS, 3/4&quot; FWD, TYPE 1</td>
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**NOTES:**
1. All characters shall be 1/2" minimum height.
2. Key dimensions shall 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 20-136-96RC**

**Frog Base Plate 20-136-97RC**
### Table of Materials

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<td>SCREWED MALLEABLE IRON TURNED TYPE 4</td>
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### Notes:
1. Characters shall be 1/2" MINIMUM HEIGHT CLEARLY STARTED AS SHOWN.
2. Holes shall be specified FLUSH WITH SHOULDER & NOT TO PROTRUDE PAST SHOULDER.
3. Extracted hole centers are indicated on drawings.

### Forged Shoulder Welding Detail

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**Forged Base Plate 20-136-98LC**

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**Forged Base Plate 20-136-99LC**

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**NOTES:**

1. IC CHARACTERS SHALL BE 1/2" MINIMUM HEIGHT.

2. HELPS SHALL BE REPORED TO THE SIDE OF THE TUBE.

3. SUGGESTED HOLE CENTERS ARE INDICATED ON DRAWING.

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**FORGED SHOULDER WELDING DETAIL**

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**FROG BASE PLATE 20-136-98RC**

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**FROG BASE PLATE 20-136-99RC**
FORGED SHOULDER WELDING DETAIL

GUARD RAIL PLATE ASSEMBLY

GUARD RAIL HARDWARE ASSEMBLY

1. PLATE SPACING SHALL BE SET FOR SHIPPING ONLY. FINAL PLATE SPACING SHALL BE DETERMINED ON THE SITE AT THE TIME OF INSTALLATION.
2. PANDORO SPRING CLIPS (20x05) SHALL BE INCLUDED IN ASSEMBLY.
3. LIFT POINTS AND WEIGHT OF ASSEMBLY SHALL BE MARKED ON HEAD OF HEAR BAR WITH WHITE PAINT.
4. PLATE SHALL BE STAMPED WITH PLATE NO. WITH 1/2" HIGH CHARACTERS AS SHOWN.
5. CAPPING AWAY CORNER OF PANDORO SHALL BE CLEAN TO CLEAR FEET OF ASSEMBLY.
6. SEE SD-2350 FOR STRAIGHT SIDE GUARD RAIL.
FORGED SHOULDER WELDING DETAIL

GUARD RAIL PLATE ASSEMBLY

GUARD RAIL HARDWARE ASSEMBLY

NOTES:
1. PLATE SPACING IS SET FOR SHIPMENT ONLY. FINAL PLATE SPACING SHALL BE DETERMINED BY REASSEMBLY AT TIME OF INSTALLATION.
2. PARALLEL SPRING CLIPS (20-0505) SHALL BE INCLUDED IN ASSEMBLY.
3. LIFT POINTS AND WEIGHT OF ASSEMBLY SHALL BE MARKED ON HEAD OF RAIL BAR WITH STRAIGHT EDGE.
4. PLATE SHALL BE STAMPED WITH PLATE ID. WITH 1/2" HIGH CHARACTERS AS SHOWN.
5. GRIND AWAY CORNER OF PARALLEL SPRING TO CLEAR POINT OF CLAMP ASSEMBLY.
6. SEE 20-2301 FOR STRAIGHT EDGE GUARD RAIL.
SWITCH ROD ASSEMBLY 20–136–4

SWITCH ROD ASSEMBLY 20–136–5

NOTES:
1. ROD IDENTIFICATION SHALL BE ENGRAVED ON ROD CLEARLY
   AS SHOWN, 3/8" IN HEIGHT.
SWITCH PLATE P20-136-38LC

SWITCH PLATE P20-136-39LC

SWITCH PLATE P20-136-40LC

NOTES:
1. ALL CHARACTERS SHALL BE 1/2" MINIMUM HEIGHT CLEARLY STATED AS SHOWN
2. HOLE SHOULD BE DRILLED PUNCH WITH INCLUDES & NOT TO PROTRIDE INTO RAIL SEAT
3. NUTS & BOLTS NERS ARE INDICATED ON DRAWING