Port of
LONG BEACH
THE PORT OF CHOICE

RAILROAD STANDARD PLANS

ADDENDUM 1
JULY 2026

RAILROAD STANDARD PLAN	COVER/TITLE SHEET
Port of LONG BEACH THE PORT OF CHOICE	07/07/2026 DRAWING NO. RR-000
CLINT C. HERRERA, P.E. NO. C-61471 DIRECTOR OF ENGINEERING DESIGN DATE	SHEET 1 OF 1

Port of
LONG BEACH
THE PORT OF CHOICE

July 7, 2026

Preface: Addendum 1 to Railroad Standard Plans Dated September 2013

The Port of Long Beach Railroad Standard Plans were issued in September 2013 to provide guidance to engineers, contractors, and developers involved in the preparation of plans and construction of railroad facilities and improvements under the jurisdiction of the Port of Long Beach.

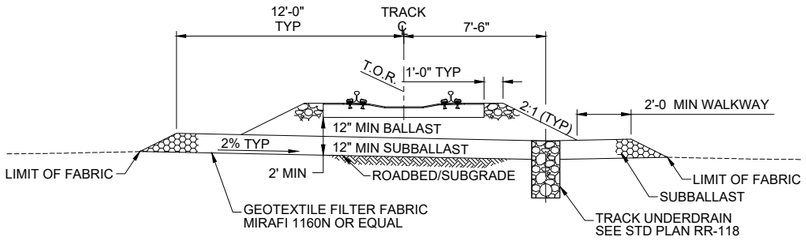
Addendum 1 is being issued to provide updates to the following standard plans:

Standard Plan No.	No. of Sheets	Title	Change Description
RR-111	1	Single Track Roadbed Sections	Updated Standard
RR-112	1	Double Track Roadbed Sections	Updated Standard
RR-130	1	CPUC Minimum Walkway Standards	Updated Standard
RR-201	1	Concrete Ties - Details	Updated Standard
RR-351	2	Number 9 Turnout 136 LB	Updated Standard

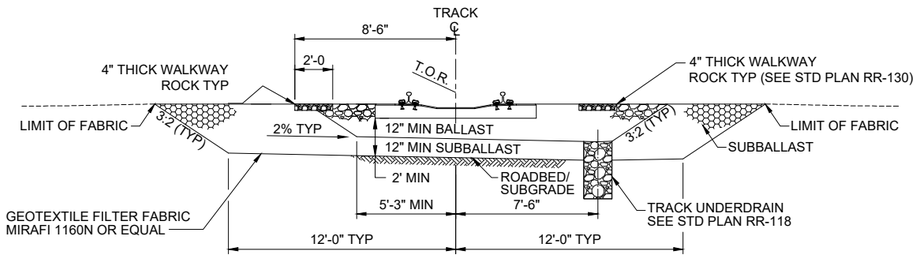
The above updated standard plan numbers supersede the respective 2013 standard plan numbers. The order of precedence remains the same as provided in the 2013 Railroad Standard Plans.

Sincerely,

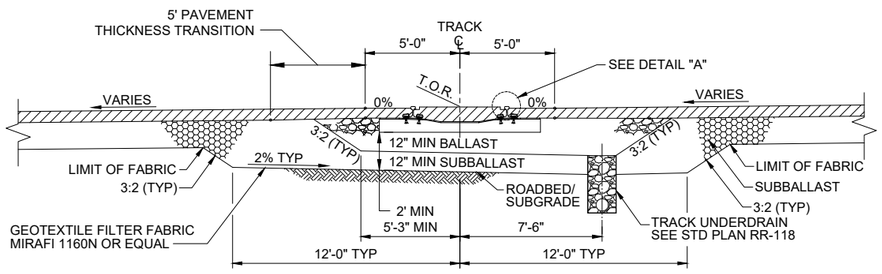
Clint Herrera, P.E.
Director of Engineering Design Division



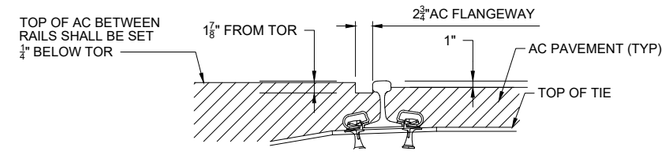
SINGLE TRACK FILL AREAS



SINGLE TRACK CUT AREAS



SINGLE TRACK PAVED

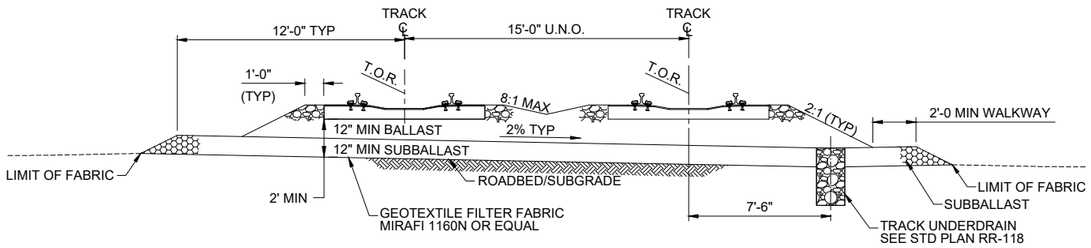


A
- -
AC PAVEMENT FLANGEWAY DETAIL
NTS

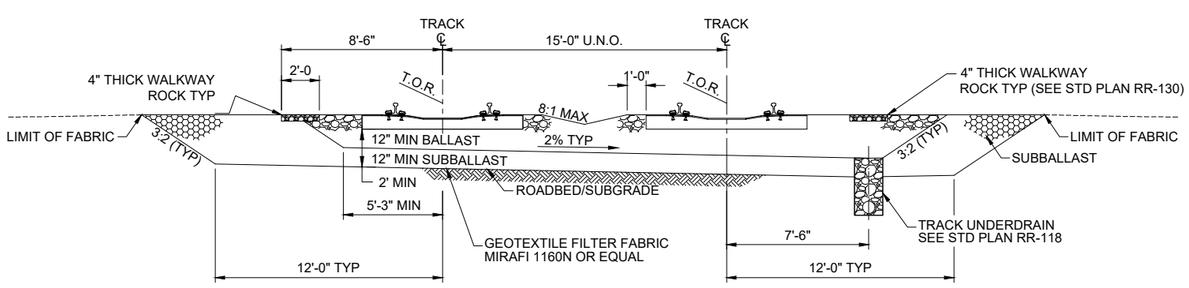
GENERAL NOTES:

1. ALL MINIMUM DIMENSIONS SHOWN SHALL BE MET UNLESS OTHERWISE APPROVED BY POLB.
2. BALLAST DEPTH SHALL BE A MIN OF 12" BELOW THE BOTTOM OF TIE. SUBBALLAST DEPTH SHALL BE A MIN OF 12".
3. BALLAST ROCK SHALL BE NO. 4A PER TABLE 1-2-2, CHAPTER 1, PART 2, SECTION 2.4 OF THE AREMA MANUAL.
4. ROADBED / SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
5. WALKWAYS SHALL BE PLACED AS SHOWN ON RAILROAD STANDARD PLAN RR-130. WALKWAY ROCK SHALL BE NO.5 PER TABLE 1-2-2, CHAPTER 1, PART 2, SECTION 2.4 OF THE AREMA MANUAL.
6. TYPICAL SECTIONS SHOWN ARE INTENDED TO PROVIDE GUIDANCE FOR NEW, PROJECT SPECIFIC TRACK SECTIONS.

RAILROAD STANDARD PLAN	SINGLE TRACK ROADBED SECTIONS	
Port of LONG BEACH THE PORT OF CHOICE	07/07/2026	DRAWING NO. RR-111
	CLINT C. HERRERA, P.E. NO. C-61471 DIRECTOR OF ENGINEERING DESIGN DATE	SHEET 1 OF 1



DOUBLE TRACK FILL AREAS



DOUBLE TRACK CUT AREAS

GENERAL NOTES:

1. ALL MINIMUM DIMENSIONS SHOWN SHALL BE MET UNLESS OTHERWISE APPROVED BY POLB.
2. BALLAST DEPTH SHALL BE A MIN OF 12" BELOW THE BOTTOM OF TIE. SUBBALLAST DEPTH SHALL BE A MIN OF 12".
3. BALLAST ROCK SHALL BE NO. 4A PER TABLE 1-2-2, CHAPTER 1, PART 2, SECTION 2.4 OF THE AREMA MANUAL.
4. MULTIPLE TRACK SPACING WITHIN MARINE TERMINALS REQUIRES A DESIGN SPECIFIC TO THE INTENDED OPERATION.
5. ROADBED / SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
6. WALKWAYS SHALL BE PLACED AS SHOWN ON RAILROAD STANDARD PLAN RR-130. WALKWAY ROCK SHALL BE NO.5 PER TABLE 1-2-2, CHAPTER 1, PART 2, SECTION 2.4 OF THE AREMA MANUAL.
7. TYPICAL SECTIONS SHOWN ARE INTENDED TO PROVIDE GUIDANCE FOR NEW, PROJECT SPECIFIC TRACK SECTIONS.

RAILROAD STANDARD PLAN

DOUBLE TRACK ROADBED SECTIONS

Port of LONG BEACH
THE PORT OF CHOICE

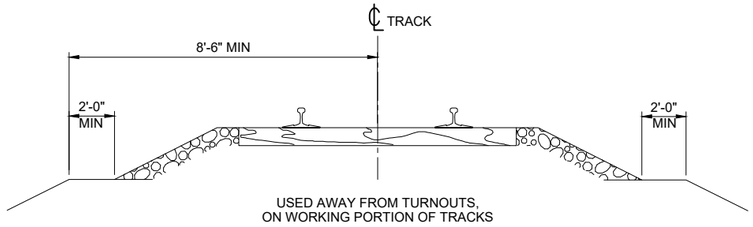
07/07/2026

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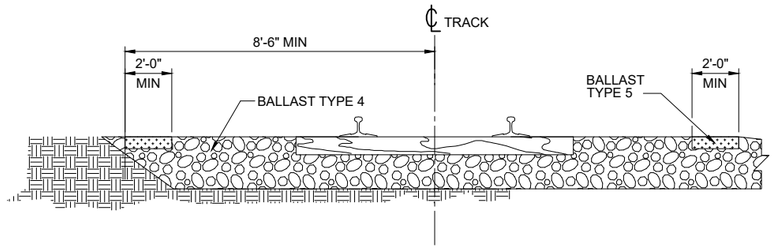
DATE

DRAWING NO. RR-112

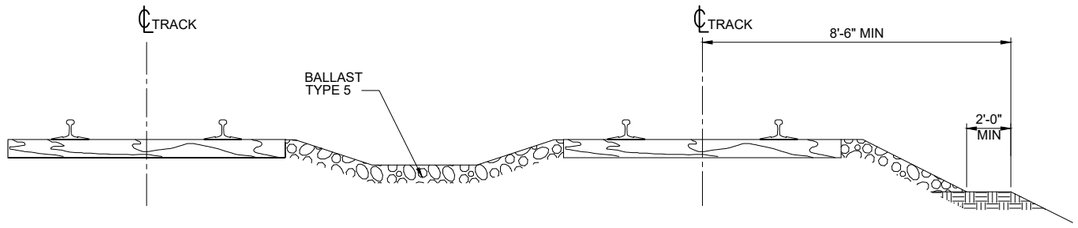
SHEET 1 OF 1



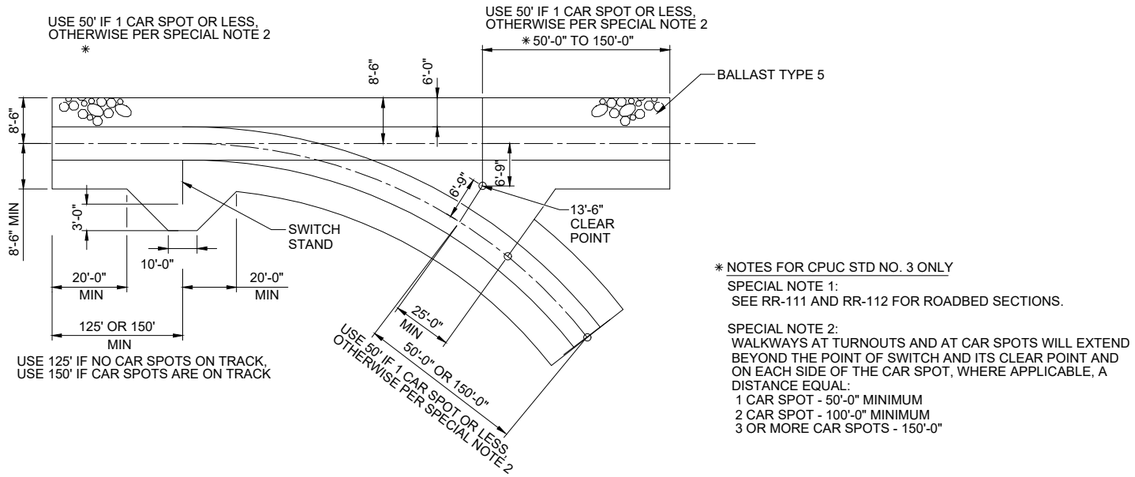
CPUC STANDARD NO. 1 GENERAL WALKWAY



MODIFIED CPUC STANDARD NO. 1 GENERAL WALKWAY IN CUT AREAS



CPUC STANDARD NO. 2 TYPICAL TRACK CONFIGURATION YARD TRACKS



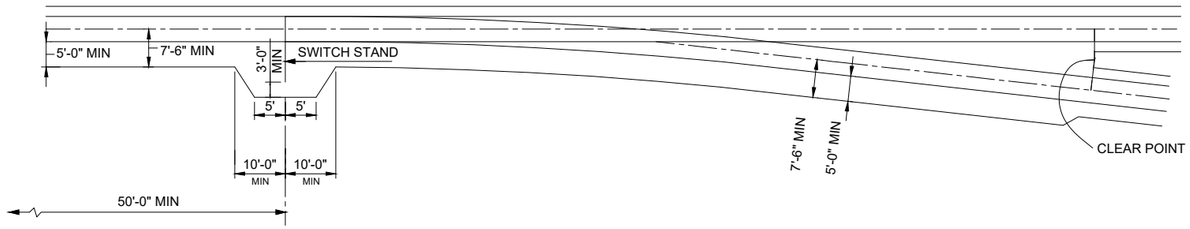
* NOTES FOR CPUC STD NO. 3 ONLY

SPECIAL NOTE 1:
SEE RR-111 AND RR-112 FOR ROADBED SECTIONS.

SPECIAL NOTE 2:
WALKWAYS AT TURNOUTS AND AT CAR SPOTS WILL EXTEND BEYOND THE POINT OF SWITCH AND ITS CLEAR POINT AND ON EACH SIDE OF THE CAR SPOT, WHERE APPLICABLE, A DISTANCE EQUAL:
1 CAR SPOT - 50'-0" MINIMUM
2 CAR SPOT - 100'-0" MINIMUM
3 OR MORE CAR SPOTS - 150'-0"

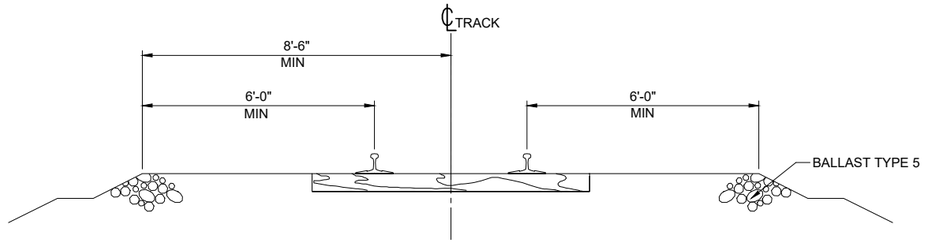
CPUC STANDARD NO. 3 WALKWAYS FOR TYPICAL TURNOUT IN YARDS

WALKWAYS WHERE SWITCHES ARE NON-POWER OPERATED.



CPUC STANDARD NO. 5 WALKWAYS FOR TYPICAL TURNOUT IN YARDS

WALKWAYS WHERE SWITCHES ARE POWER OPERATED.



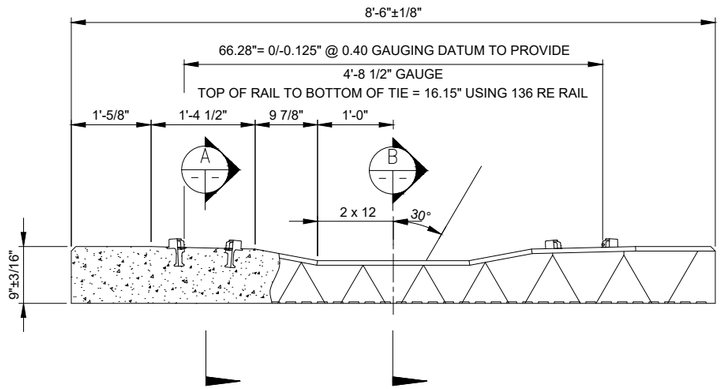
CPUC STANDARD NO. 6 WALKWAY AT TURNOUTS AND CAR SPOTS

USED AT WALKWAYS IN YARDS, WHERE SWITCHING IS PERFORMED, SEE CPUC STANDARD NO. 3 THIS SHEET.

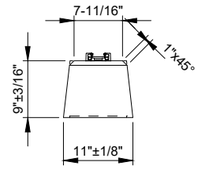
NOTES:

1. THIS SHEET DEPICTS REQUIREMENTS AS DETAILED IN CPUC GENERAL ORDER 118A.
2. IN ALL CASES LATERAL CLEARANCE AND TRACK SPACING WILL MATCH CPUC G.O. 26-D.
3. WALKWAYS SHALL BE MAINTAINED AND KEPT FREE FROM VEGETATION.
4. IF PHYSICAL CONDITIONS REQUIRE, THE MINIMUM REQUIRED WALKWAY WIDTH FOR NO 1 TYPE WALKWAYS MAY BE REDUCED TO 2' MINIMUM UPON APPROVAL OF POLB.
5. FOR DETAILS OF STANDARD ROADBED SECTIONS REFER TO RR-111 & RR-112.
6. BALLAST SHOULDER SHALL BE 12" MINIMUM.
7. WHERE PAVING IS USED WITHIN THE WALKWAY AREAS. IT SHALL CONFORM TO THE DIMENSIONS AND SLOPES SHOWN FOR CRUSHED ROCK WALKWAYS.
8. ROADWAY ROCK SHALL BE CRUSHED ROCK IN CONFORMANCE WITH AREMA STANDARDS 4A OR 5 AS APPROPRIATE.

RAILROAD STANDARD PLAN	CPUC MINIMUM WALKWAY STANDARDS
Port of LONG BEACH THE PORT OF CHOICE	07/07/2026 DATE CLINT C. HERRERA, P.E. NO. C-61471 DIRECTOR OF ENGINEERING DESIGN
	DRAWING NO. RR-130
	SHEET 1 OF 1



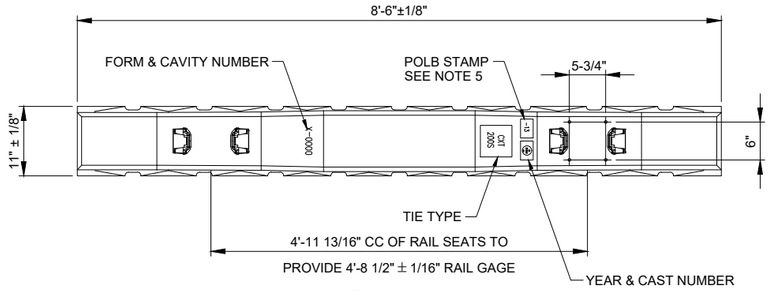
ELEVATION



END VIEW

NOTES:

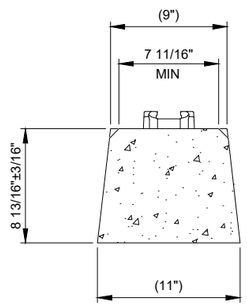
1. PADS FOR CONCRETE TIES SHALL MEET AREMA VOL. 1 CHAPTER 30, SECTION 1.7 FASTENINGS.
2. HEAVY DUTY INSULATERS SHALL BE USED ON ALL CONCRETE TIES.
3. CONCRETE TIE SHOULDERS AND DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY.
4. FASTENING SYSTEM SHALL BE BASED ON MANUFACTURER'S APPROVED DESIGN TESTING IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
5. "POLB" SHALL BE CAST INTO THE TIE AT THE LOCATION INDICATED TO CLEARLY SHOW TIE OWNERSHIP BY THE PORT OF LONG BEACH.
6. TIE SPACING SHALL BE NOMINAL 24".



PLAN

1 DETAIL – TYPICAL CONCRETE CROSS TIE

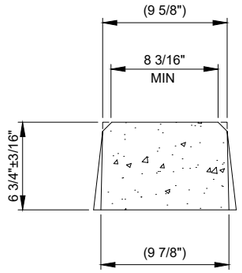
SCALE: 1" = 1'-0"



(MIDWAY BETWEEN SHOULDERS)

A SECTION

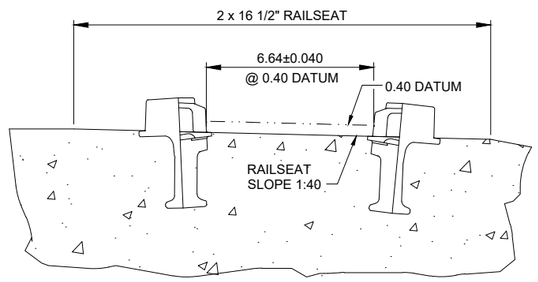
SCALE: 1" = 2'-0"



(CENTER OF TIE)

B SECTION

SCALE: 1" = 2'-0"



2 DETAIL – SHOULDER LOCATION

SCALE: 1/4" = 1'-0"

RAILROAD STANDARD PLAN

CONCRETE TIES - DETAILS

Port of LONG BEACH THE PORT OF CHOICE

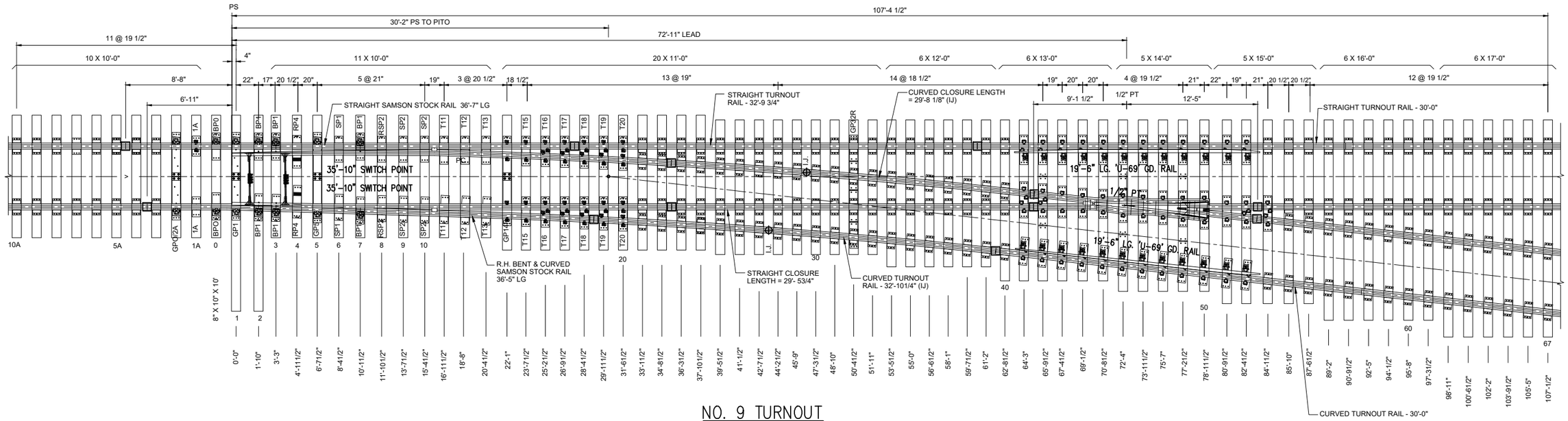
07/07/2026

CLINT C. HERRERA, P.E. NO. C-61471
DIRECTOR OF ENGINEERING DESIGN

DATE

DRAWING NO. RR-201

SHEET 1 OF 1



NO. 9 TURNOUT

R.H. TURNOUT SHOWN - L.H. OPPOSITE

BILL OF MATERIAL FOR NO. 9 136RE RH TURNOUT C/W RBM FROG	
QTY	DESCRIPTION
1	36'-7" 136RE LH STRAIGHT SAMSON STOCK RAIL FOR RH TURNOUT
1	36'-5" 136RE RH BENT SAMSON STOCK RAIL FOR RH TURNOUT
1	32'-9 3/4" 136RE STRAIGHT RUNNING RAIL
1	30'-0" 136RE STRAIGHT RUNNING RAIL
1	29'-5 3/4" 136RE STRAIGHT CLOSURE RAIL
1	29'-8 1/8" 136RE CURVED CLOSURE RAIL (IJ RAIL)
1	32'-10 1/4" 136RE CURVED TURNOUT RAIL (IJ RAIL)
1	30'-0" 136RE CURVED TURNOUT RAIL
1	16'-6" 136RE LH SAMSON DET. 5100 SWITCH POINT WITH UNIFORM RISER ON 35'-10" RAIL
1	16'-6" 136RE RH SAMSON DET. 5100 SWITCH POINT WITH UNIFORM RISER ON 35'-10" RAIL
1	PAIR OF 2-HOLE FLOATING HEEL BLOCK ASSEMBLY FOR 16'-6" 136RE UNIFORM RISER SWITCH
1	NO.9 136LB RE RBM FROG C/W PANDROLIZED FROG BASE PLATES
1	PANDROLIZED SWITCH PLATE PACK FOR 16'-6" 136RE UNIFORM RISER SWITCH
1	PANDROLIZED TURNOUT PLATE PACK FOR RH NO. 9 UNIFORM RISER
2	19'-6" U69 GUARD RAILS C/W GUARD RAIL PLATES, AND HARDWARE
1	NO.1 VERTICAL INSULATED SWITCH ROD
1	NO.2 VERTICAL INSULATED SWITCH ROD
4	ADJUSTABLE ROCKER CLIPS
5	ADDITIONAL GAGE PLATES (3 @ THE FROG AND 2 THRU THE TURNOUT)
102	PANDROL ROLLED 1:40 CANT TIE PLATE 6" BASE
4	PANDROL ROLLED 1:40 CANT TIE PLATE 6" BASE (CUT FOR CLEARANCE)
A/R	PANDROL "e" CLIP 2055
A/R	15/16" x 6" SCREW SPIKE
36	SET OF PANDROL "C" CLIP AND "C" PLATE FOR JOINT BAR FASTENING
2	INSULATED JOINT KIT C/W 3/8" END POST & HARDWARE
1	SWITCH STAND RACOR 22-E OR AS DIRECTED

SWITCH TIES	
LENGTH	QTY
10'-0"	21
8"x10"x10'-0"	1
11'-0"	20
12'-0"	6
13'-0"	6
14'-0"	5
15'-0"	5
16'-0"	8
17'-0"	6
TOTAL QTY = 78	
TOTAL L.F. = 965 LF	

1-8" X 10" X 10'-0"
ALL TIES 7" X 9" X LENGTHS GIVEN EXCEPT TIE # 0

* HEADBLOCK TIES SHALL BE 16'-0" FOR SWITCH STANDS LOCATED ON THE OUTSIDE OF TRACKS AND 14' FOR INSIDE ABOVE TABLE SHOWS OUTSIDE SWITCH STAND PLACEMENT TIE COUNTS

LEGEND:

⊕ INDICATES 36" 6-HOLE BONDED INSULATED JOINT (1/4" END POST)

☐ FIELD WELDED JOINT (15/16" OPENING)

NOTES:

1. SWITCH POINTS TO BE DOUBLE REINFORCED WITH 2'-8" LONG SOLID MANGANESE STEEL SAMSON TYPE SWITCH POINTS AND UNIVERSALLY UNDERCUT STOCK RAIL. TURNOUTS SHALL HAVE VERTICAL SWITCH RODS.
2. FROG SHALL BE GLUED, HIGH INTEGRITY, EXPLOSION HARDENED, RAIL BOUND MANGANESE STEEL CASTING WITH MITERED HEEL AND EXTENDED HEEL AND WING RAILS.
3. ALL SWITCH RODS AND GAUGE PLATES ARE TO BE INSULATED TYPES.
4. STOCK RAILS ARE TO BE BENT IN THE MILL OR IN THE SHOP.
5. INSTALL INSULATED JOINTS ON ALL TURNOUTS AS SHOWN ABOVE. INSULATED JOINTS ARE TO BE POLY-INSULATED TYPE ONLY.
6. A MINIMUM 1" GAP MUST BE MAINTAINED BETWEEN THE ENDS OF METAL TIE PLATES LOCATED BEYOND THE CLOSURE AREA OF INSULATED JOINTS IN ORDER TO PROVIDE PROPER TRACK CIRCUIT PROTECTION.
7. POWER SWITCH MECHANISM OR HAND THROW SWITCH STAND SHALL BE AS SPECIFIED BY THE CONTRACT DRAWINGS.
8. ARC METHOD IS USED TO CALCULATE TURNOUT CURVE DATA AND OFFSETS.
9. ALL SWITCH TIES SHALL BE TIMBER.
10. INSTALL TWO INSULATED GAGE PLATES LOCATED AT THREE TIE SPACINGS IN ADVANCE OF SWITCH PER AREMA 223-24.
11. PROVIDE ELECTRICAL CONDUIT W/ STUB OUT FOR ALL TURNOUT SWITCHES TO ACCOMMODATE FUTURE POWER SWITCHING IF NOT INDICATED ON THE PLANS AS POWERED. SEE STD PLAN RR-503 FOR STUB OUT LOCATION.
12. SEE PROJECT PLANS FOR LOCATION OF TURNOUTS AND POWER OPERATOR ORIENTATION.
13. FOR IN-PAVEMENT TYPE SWITCH SEE SHEETS RR-611 TO RR-615.

RAILROAD STANDARD PLAN

NUMBER 9 TURNOUT 136 LB

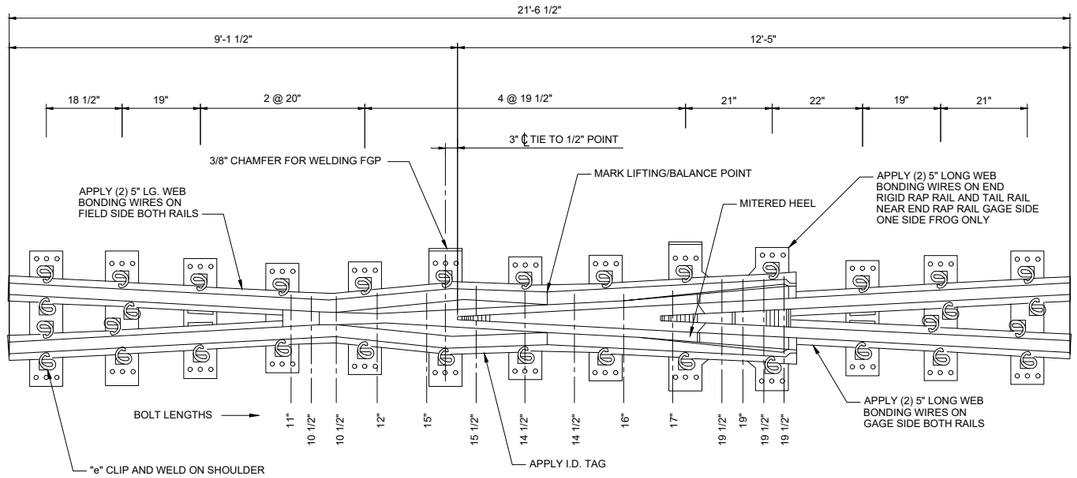
Port of LONG BEACH THE PORT OF CHOICE

07/07/2026

CLINT C. HERRERA, P.E. NO. C-61471 DATE
DIRECTOR OF ENGINEERING DESIGN

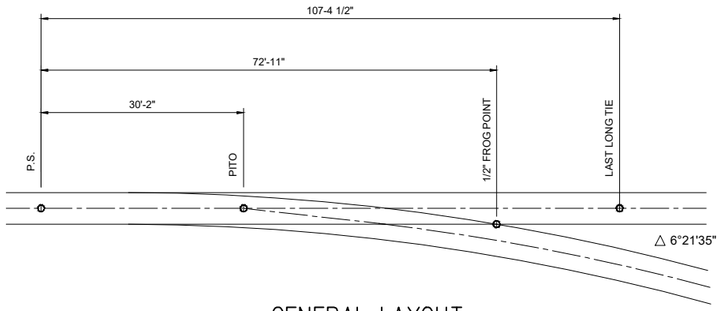
DRAWING NO. RR-351

SHEET 1 OF 2



NO. 9 RBM FROG

LIST OF FROG BOLTS	
QTY	DESCRIPTION
2	BOLT. SO HD. 1 3/8" UNC X 10 1/2" LONG GR. 8
1	BOLT. SO HD. 1 3/8" UNC X 11" LONG GR. 8
1	BOLT. SO HD. 1 3/8" UNC X 12" LONG GR. 8
2	BOLT. SO HD. 1 3/8" UNC X 14 1/2" LONG GR. 8
1	BOLT. SO HD. 1 3/8" UNC X 15" LONG GR. 8
1	BOLT. SO HD. 1 3/8" UNC X 15 1/2" LONG GR. 8
1	BOLT. SO HD. 1 3/8" UNC X 16" LONG GR. 8
1	BOLT. SO HD. 1 3/8" UNC X 17" LONG GR. 8
1	BOLT. SO HD. 1 3/8" UNC X 19" LONG GR. 8
3	BOLT. SO HD. 1 3/8" UNC X 19 1/2" LONG GR. 8
14	HEAD LOCK WASHER (UTW 132)
14	TAIL WASHER (UTW 132)
14	NUT. 1 3/8" DIA HEAVY HEX SECURITY LOCK, GR. 8
14	FLAT WASHER. 1 3/8" TYPE B HARDENED F436



GENERAL LAYOUT

RBM FROG DATA	
ANGLE	6°21'35"
TOE LENGTH	9'-1 1/2"
HEEL LENGTH	12'-5"
TOTAL LENGTH	21'-6 1/2"

TURNOUT DATA	
SWITCH LENGTH	16'-6" (STRAIGHT)
ACTUAL LEAD	72'-11"
PS TO PITO	30'-2"
RADIUS OF CENTER LINE	614'
T =	24.59'
DEGREE OF CURVE	9°20'31"
CENTRAL ANGLE - CLOSURE CURVE	4°35'13"
RISERS	UNIFORM

NOTES:

1. ALL MEASUREMENTS GIVEN AT 5/8" BELOW TOP OF RAIL & TO 1/2" POINT OF FROG.
2. FLANGEWAYS: 1-7/8" WIDE X 2" DEEP (EXCEPT 1-13/16" WIDE THRU HEAVY POINT AREA). FROG BODY BOLTS SHALL BE HEAT TREATED 1 3/8" DIA. HEAVY HEX HEAD BOLTS MEETING SAE J429 GRADE 8, WITH HEAVY HEX PREVAILING TORQUE LOCK NUTS MEETING ASTM A563 GRADE C OR BETTER, AND 1/4" MINIMUM THICKNESS HARDENED STEEL FLAT WASHERS. WHERE THE FROG CASTING BEARING SURFACE IS NOT PERPENDICULAR TO THE BOLT AXIS, PROVIDE DUCTILE IRON WASHERS AND HEAD-BEARING HARDWARE BEVELED TO MATCH THE CASTING SLOPE, SUFFICIENT TO PROVIDE FULL, FLAT BEARING UNDER THE BOLT HEAD AND NUT.
3. DRILLING: 9 1/2" x 6" - 1 1/8" DIA - 3 3/32" AB.
4. ALL BOLT HOLES SHALL BE CHAMFERED 1/16".
5. EXPLOSION HARDEN MANGANESE CASTING PER AREMA SPECIFICATIONS FOR SPECIAL TRACKWORK M2.7, (M2.7.2), MINIMUM BHN352.
6. RAILS TO BE FULLY HEAT TREATED OR DEEP HEAD HARDENED.

RAILROAD STANDARD PLAN

NUMBER 9 TURNOUT 136 LB

Port of LONG BEACH
THE PORT OF CHOICE

07/07/2026

CLINT C. HERRERA, P.E. NO. C-61471 DATE
DIRECTOR OF ENGINEERING DESIGN

DRAWING NO. RR-351

SHEET 2 OF 2