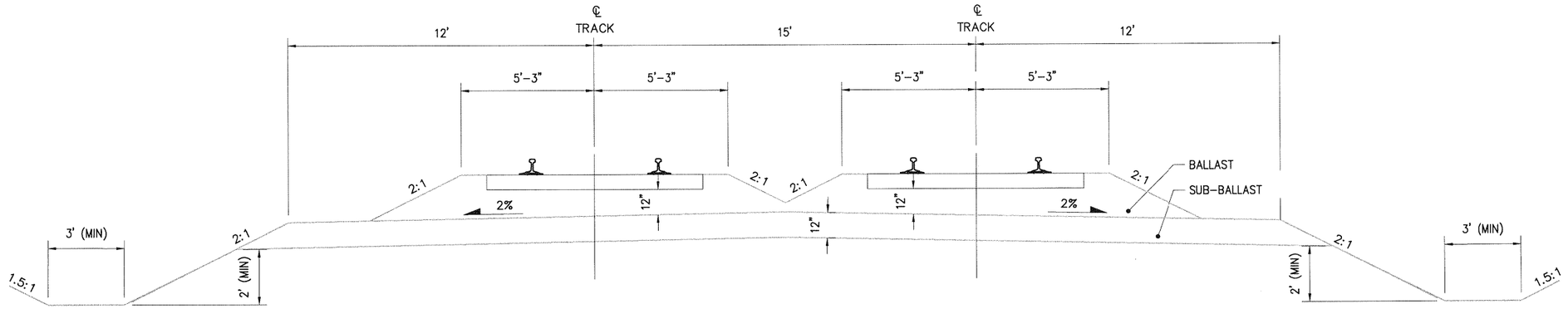
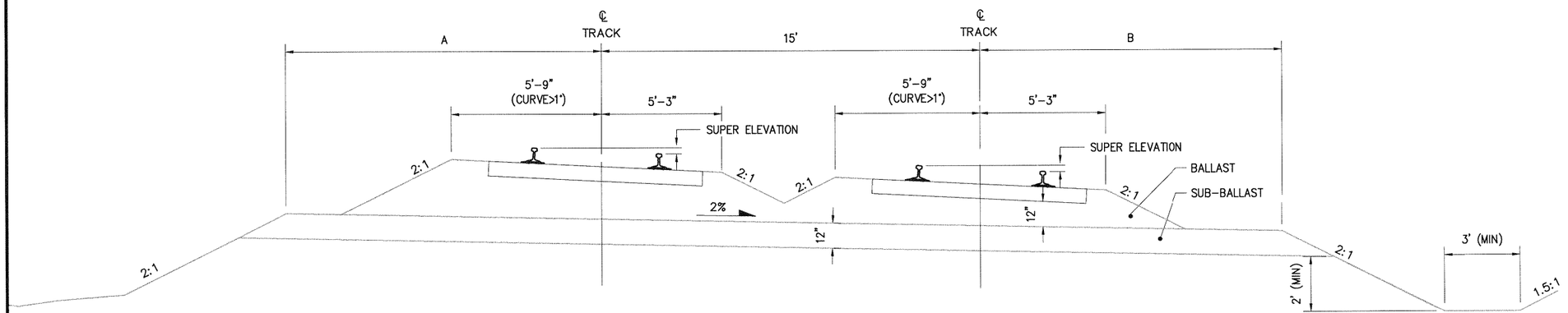


TANGENT SECTION

SCALE: 1" = 5'



CURVED SECTION

SCALE: 1" = 5'

BALLAST REQUIRED FOR 100' OF TRACK		
	SUPER ELEVATION	CUBIC YARDS
CURVED TRACK	1"	140.3
	2"	165.3
	3"	182.9
	4"	220.5
	5"	246.5
TANGENT TRACK		148.9

SUB-BALLAST REQUIRED FOR 100' OF TRACK		
	DEGREE OF CURVE	CUBIC YARDS
CURVED TRACK	0° – 1°	152.9
	1° – 2°	154.7
	2° – 6°	155.6
	+6°	157.5
TANGENT TRACK		152.2

SUB-BALLAST WIDTH FOR DEGREE CURVATURE		
	DIMENSIONS	
	A	B
0° – 1 0' INCLUSIVE	12'-0"	12'-0"
1° 1' – 2° 0' INCLUSIVE	12'-6"	12'-0"
2° 1' – 6° 0' INCLUSIVE	13'-0"	12'-0"
OVER 6°	13'-6"	12'-0"

NOTES

1. BALLAST DEPTH SHALL BE MINIMUM 12" UNDER TIE, MEASURED AT LOW RAIL.
2. ALL QUANTITIES ESTIMATED, REPRESENT IN-PLACE, COMPACTED MATERIAL, BASED ON 6,500 TIES PER MILE AND MINIMUM BALLAST AND SUB-BALLAST DIMENSIONS.
3. SUBGRADE SLOPE TRANSITION RATE TO BE 1" IN 10'.
4. DEPTH OF DITCH VARIES TO PROVIDE POSITIVE DRAINAGE.

STATE OF ALASKA
49 TH
T. Brooks
Thomas E. Brooks
NO. CE-5088
PROFESSIONAL ENGINEER

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD

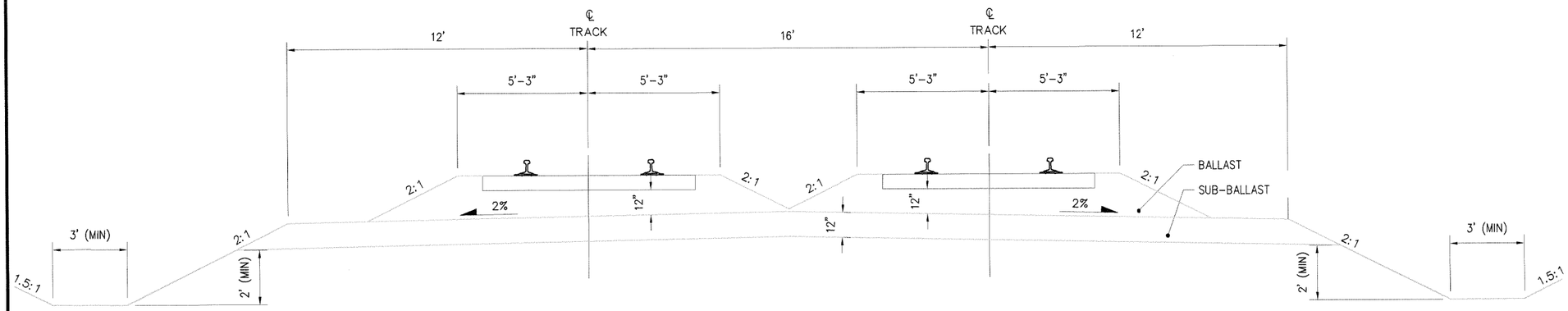
MAIN LINE DOUBLE TRACK BALLAST SECTIONS WOOD TIES

APPROVED: T. Brooks DATE: 1/28/04

DESIGNED BY: REH			FILE: s2.1-04.dwg
DRAWN BY: BBF	SCALE: 1" = 60'		2.1-04
CHECKED BY: REH			
APPROVED BY: TEB	DATE: 1/28/2004		

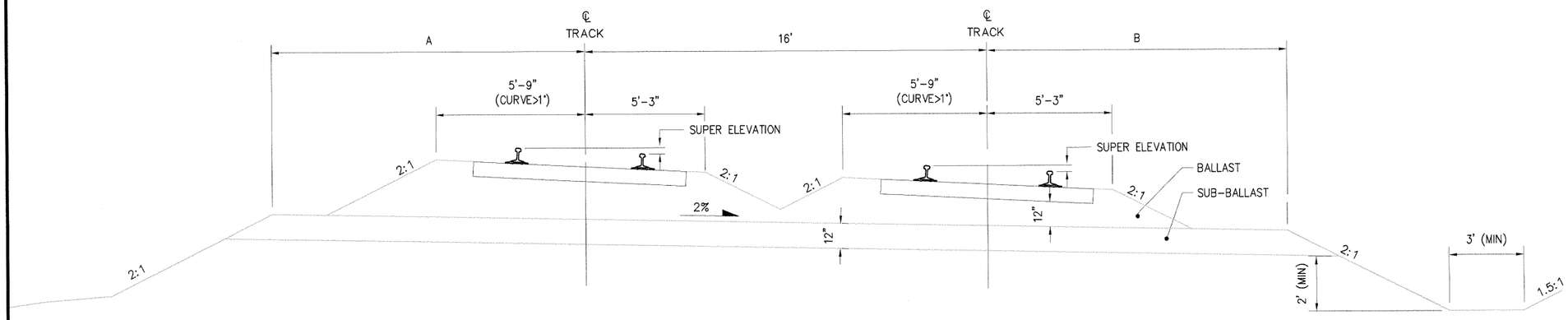
SUB-BALLAST WIDTH FOR DEGREE CURVATURE		
	DIMENSIONS	
	A	B
0° – 1 0' INCLUSIVE	12'-0"	12'-0"
1° 1' – 2° 0' INCLUSIVE	12'-6"	12'-0"
2° 1' – 6° 0' INCLUSIVE	13'-0"	12'-0"
OVER 6°	13'-6"	12'-0"

NOTES
1. BALLAST DEPTH SHALL BE MINIMUM 12" UNDER TIE, MEASURED AT LOW RAIL.
2. SUBGRADE SLOPE TRANSITION RATE TO BE 1" IN 10'.
3. DEPTH OF DITCH VARIES TO PROVIDE POSITIVE DRAINAGE.



TANGENT SECTION

SCALE: 1" = 5'



CURVED SECTION

SCALE: 1" = 5'

STATE OF ALASKA
49 TH
Thomas E. Brooks
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STANDARD

MAIN LINE DOUBLE TRACK BALLAST SECTIONS 16' CENTERS WOOD TIES

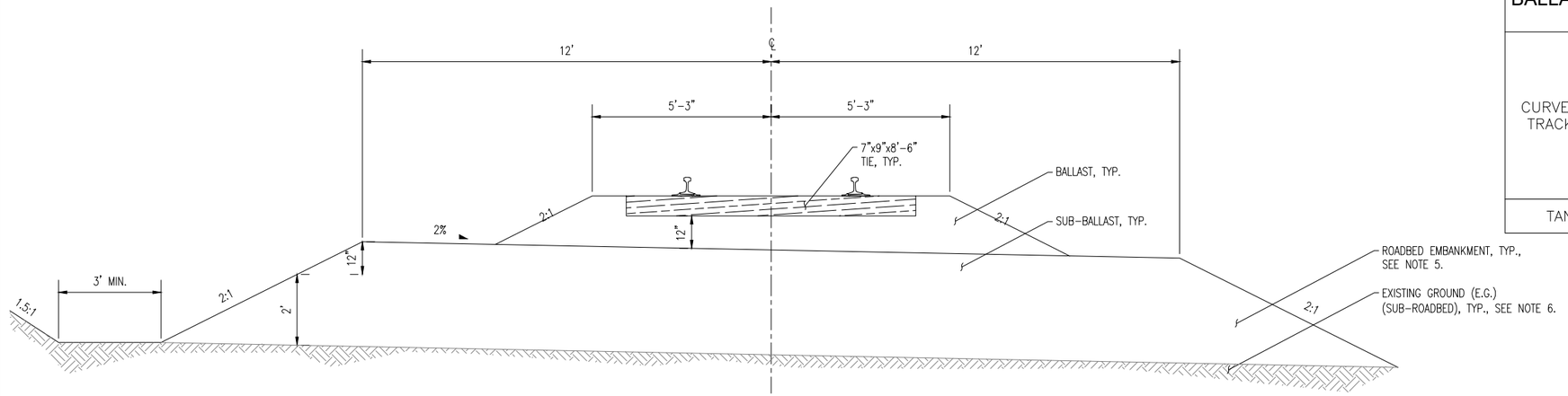
APPROVED: DATE:

DESIGNED BY: REH
DRAWN BY: BBF
CHECKED BY: JLS
APPROVED BY: TEB

SCALE: 1" = 60'
DATE: 4/14/2005

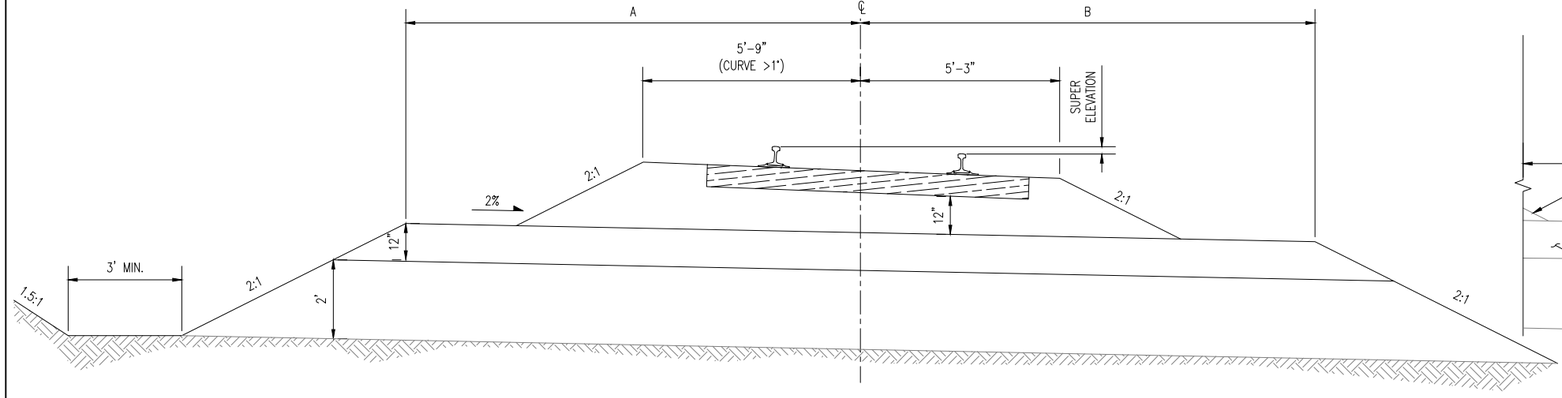
FILE: s2.11-05.dwg

2.11-05



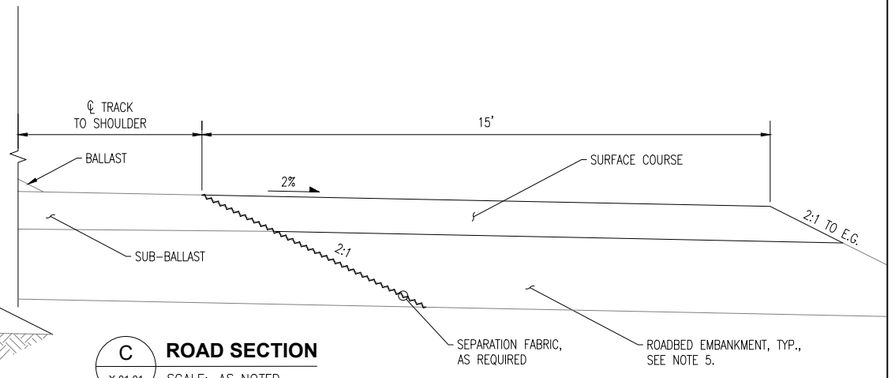
A X-01.01 **TANGENT SECTION - SINGLE TRACK, WOOD TIE**

SCALE: AS NOTED



B X-01.01 **CURVE SECTION - SINGLE TRACK, WOOD TIE**

SCALE: AS NOTED



C X-01.01 **ROAD SECTION**

SCALE: AS NOTED

BALLAST REQUIREMENTS FOR 100' OF TRACK

	SUPER ELEVATION	CUBIC YARDS
CURVED TRACK	1"	75.1
	2"	77.0
	3"	80.1
	4"	83.4
	5"	86.8
TANGENT TRACK		75.0

SUB-BALLAST REQUIREMENTS FOR 100' OF TRACK

	DEGREE OF CURVE	CUBIC YARDS
CURVED TRACK	0° – 1°	96.3
	1° – 2°	98.2
	2° – 6°	100.0
	> 6°	101.9
TANGENT TRACK		96.3

SUB-BALLAST WIDTH FOR DEGREE OR CURVATURE

DEGREE OF CURVATURE	DIMENSIONS	
	A	B
0° – 1°0'	12'–0"	12'–0"
1°1' – 2°0'	12'–6"	12'–0"
2°1' – 6°0'	13'–0"	12'–0"
> 6°	13'–6"	12'–0"

GENERAL NOTES:

1. BALLAST DEPTH SHALL BE, AT A MINIMUM, 12" BELOW THE TIE, AS MEASURED AT THE LOW RAIL.
2. ALL QUANTITIES ESTIMATED REPRESENT IN-PLACE COMPACTED MATERIAL, BASED ON 3,250 TIES PER MILE AND MINIMUM BALLAST AND SUB-BALLAST QUANTITIES.
3. SUB-GRADE SHALL SLOPE TO PREVAILING DRAINAGE SIDE ON TANGENT TRACK AND TO THE INSIDE OF THE CURVE ON CURVED TRACK.
4. SUB-GRADE TRANSITION RATE TO BE 1" OVER 10'-0".
5. EXCAVATION (NATIVE MATERIAL) MAY BE USED FOR THE ROADBED EMBANKMENT IF IT MEETS REQUIREMENTS FOR SELECTED MATERIAL, TYPE A.
6. EXCAVATION (NATIVE MATERIAL) MAY BE USED FOR THE SUB-ROADBED EMBANKMENT IF IT MEETS THE REQUIREMENTS FOR SELECTED MATERIAL, TYPE C.

MATERIALS:

- SUB-ROADBED EMBANKMENT: SELECTED MATERIAL, TYPE C IN ACCORDANCE WITH SUBSECTION 703-2.07.
- ROADBED EMBANKMENT: SELECTED MATERIAL, TYPE A IN ACCORDANCE WITH SUBSECTION 703-2.07.
- SUB-BALLAST: AGGREGATE BASE COURSE, GRADING C-1 IN ACCORDANCE WITH SUBSECTION 703-2.03.
- SURFACE COURSE: AGGREGATE BASE COURSE, GRADING D-1 IN ACCORDANCE WITH SUBSECTION 703-2.13.
- BALLAST: TYPE 3 (FOR MAIN LINE TRACK) OR 4A (FOR INDUSTRY TRACK) IN ACCORDANCE WITH SUBSECTION 703-2.17.
- SEPARATION FABRIC: CONFORMING TO SUBSECTION 729-2.01.2.

CONSTRUCTION:

- EXCAVATE, AS REQUIRED, IN ACCORDANCE WITH SECTION 203.
- PLACE GEOTEXTILE MATERIAL IN ACCORDANCE WITH SECTION 630.
- PLACE, GRADE, AND SHAPE SELECTED MATERIALS, TYPES A AND C, IN ACCORDANCE WITH SUBSECTION 203-3.03.
- COMPACT SELECTED MATERIAL, TYPE A IN ACCORDANCE WITH SUBSECTION 203-3.04 "COMPACTION WITH MOISTURE AND DENSITY CONTROL".
- COMPACT SELECTED MATERIAL, TYPE C IN ACCORDANCE WITH SUBSECTION 203-3.05 "COMPACTION WITHOUT MOISTURE AND DENSITY CONTROL".
- PLACE AND GRADE AGGREGATE BASE COURSES IN ACCORDANCE WITH SUBSECTION 301-3.01.
- SHAPE AND COMPACT AGGREGATE BASE COURSES IN ACCORDANCE WITH SUBSECTION 301-3.03 "SHAPING AND COMPACTION".
- PLACE RAILROAD BALLAST OF THE TYPE INDICATED ON THE PLANS IN ACCORDANCE WITH SUBSECTION 309-2.01.
- UPON COMPLETION OF THE TRACK WORK; PLACE ADDITIONAL BALLAST AS NEEDED TO TAMP, SURFACE, AND DRESS BALLAST IN ACCORDANCE WITH SUBSECTION 309-3.02.

UTILITIES:

VERIFY ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
LOCATE CALL CENTER OF ALASKA (811):

- ANCHORAGE 1.907.278.3121
- FAIRBANKS 1.907.459.6400
- STATEWIDE 1.800.478.3121

CALL CENTER WILL NOTIFY SUBSCRIBED UTILITIES ONLY, OTHER UTILITIES NEED TO BE CONTACTED INDIVIDUALLY.

0 2 4 8
(FEET)

FOR EXTERNAL USE:

STATE OF ALASKA 49TH (Your Name) No.____ REGISTERED PROFESSIONAL ENGINEER

ALASKA RAILROAD

MAIN LINE BALLAST SECTIONS ON EXISTING ALIGNMENT - WOOD TIES

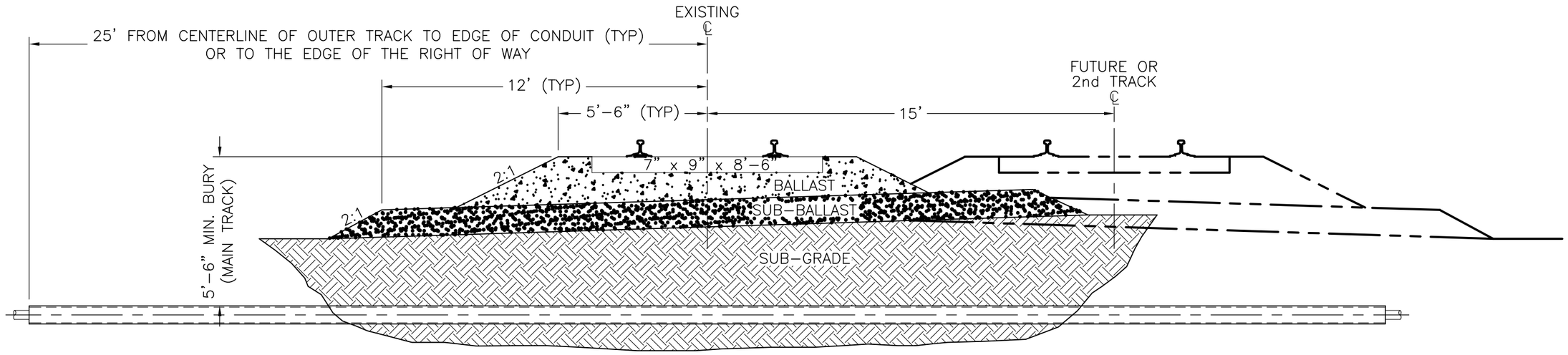
ADOPTED AS A STANDARD PLAN BY: _____
Brian A. Lindamood, P.E., S.E.
Chief Engineer

ADOPTION DATE: 01/05/2024

LAST CODE AND STANDARDS REVIEW
BY: BAO DATE: 01/05/2024

PUBLISHED CTB ----
SCALE AS NOTED
DATE TIME 10/28/2025 3:28:11 PM
DRAWING LOCATION P:\ENGINEERING\ARRC STANDARDS\2. STANDARD DRAWINGS\1 ROADWAY (X)\X-1 TYPICAL SECTIONS.DWG

X-01.01



TANGENT SECTION

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

NOTES

1. UNDER TRACK FIBEROPTIC CROSSING TO CROSS THE TRACKS PERPENDICULARY. CROSSING SHALL NOT BE PLACED WITHIN CULVERTS NOR UNDER RAILWAY BRIDGES WHERE IT MAY INTERFERE WITH THE ORIGINAL FUNCTION OF THESE CROSSINGS. CROSSING SHALL NOT INTERFERE WITH FOUNDATIONS OF EXISTING CULVERTS OR BRIDGES.
2. THE ALASKA RAILROAD CORPORATION (ARRC) RESERVES THE RIGHT TO RELOCATE THE EXISTING TRACK(S), ADD FUTURE TRACKS, OR MAKE OTHER CHANGES TO THE RAILROAD RIGHT-OF-WAY. THE UTILITY COMPANY SHALL TAKE RESPOSIBILITY FOR ALL COSTS RELATED TO MODIFICATIONS IN THE FIBEROPTIC CABLE THROUGH THESE CHANGES.

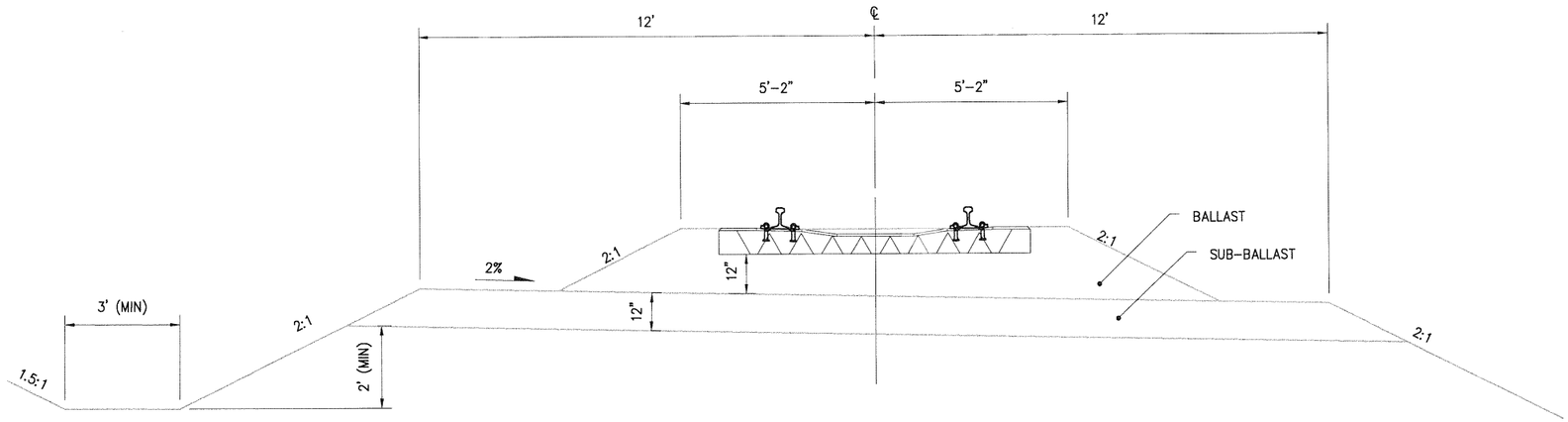
ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD

UNDER TRACK FIBEROPTIC CROSSING

APPROVED: DATE:

DESIGNED BY:			FILE: s2-22.dwg
DRAWN BY:	BBF	SCALE: AS NOTED	2.22
APPROVED BY:	ENG DEPT	DATE: 5/02	



TANGENT SECTION

SCALE: 1" = 4'

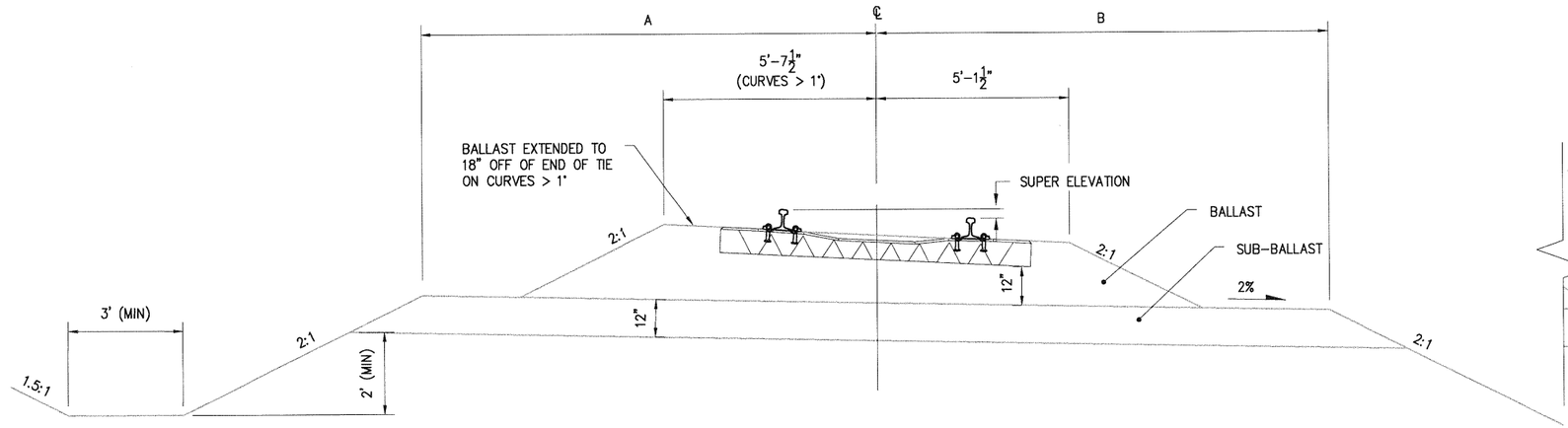
BALLAST REQUIRED FOR 100' OF TRACK		
	SUPER ELEVATION	CUBIC YARDS
CURVED TRACK	1"	80.1
	2"	84.8
	3"	89.6
	4"	94.9
	5"	100.0
TANGENT TRACK		84.3

SUB–BALLAST REQUIRED FOR 100' OF TRACK		
	DEGREE OF CURVE	CUBIC YARDS
CURVED TRACK	0° – 1°	96.3
	1° – 2°	98.2
	2° – 6°	100.0
	+6°	101.9
TANGENT TRACK		96.3

SUB–BALLAST WIDTH FOR DEGREE CURVATURE		
	DIMENSIONS	
	A	B
0° – 1° 00' INCLUSIVE	12'–0"	12'–0"
1° 01' – 2° 00' INCLUSIVE	12'–6"	12'–0"
2° 01' – 6° 00' INCLUSIVE	13'–0"	12'–0"
OVER 6°	13'–6"	12'–0"

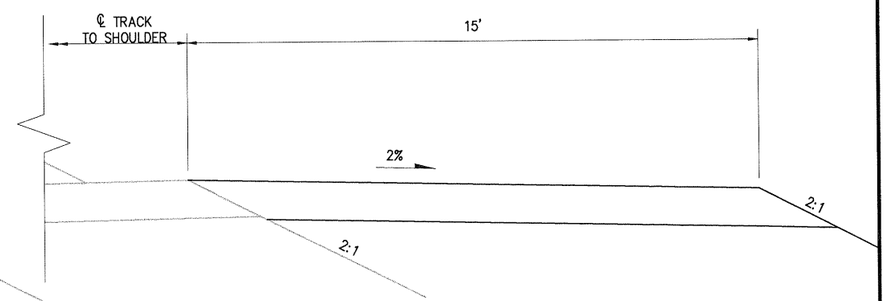
NOTES

1. BALLAST DEPTH SHALL BE MINIMUM 12" UNDER TIE, MEASURED AT LOW RAIL.
2. ALL QUANTITIES ESTIMATED, REPRESENT IN–PLACE, COMPACTED MATERIAL, BASED ON 2,640 EACH, 8'–3" CONCRETE TIES PER MILE AND MINIMUM BALLAST AND SUB–BALLAST DIMENSIONS.
3. SUB GRADE SHALL SLOPE TO PREVAILING DRAINAGE SIDE ON TANGENT, OR TO THE INSIDE OF THE CURVE.
4. SUBGRADE SLOPE TRANSITION RATE TO BE 1" IN 10'.
5. DEPTH OF DITCH VARIES TO PROVIDE POSITIVE DRAINAGE.



CURVE SECTION

SCALE: 1" = 4'



ROAD SECTION

SCALE: 1" = 4'

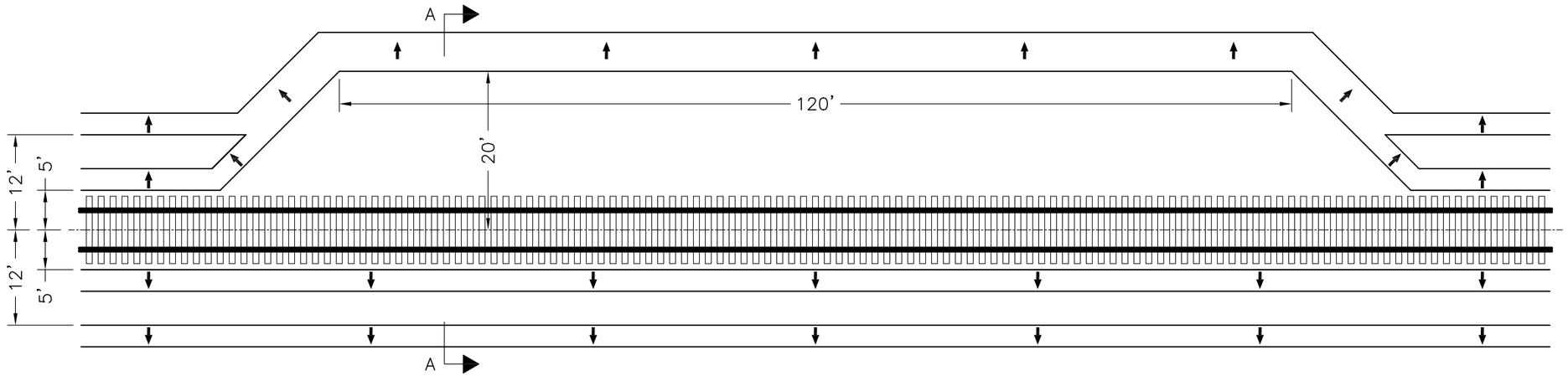
STATE OF ALASKA
49 TH
Thomas E. Brooks
NO. CE–5088
PROFESSIONAL ENGINEER

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510–7500 (907) 265–2456

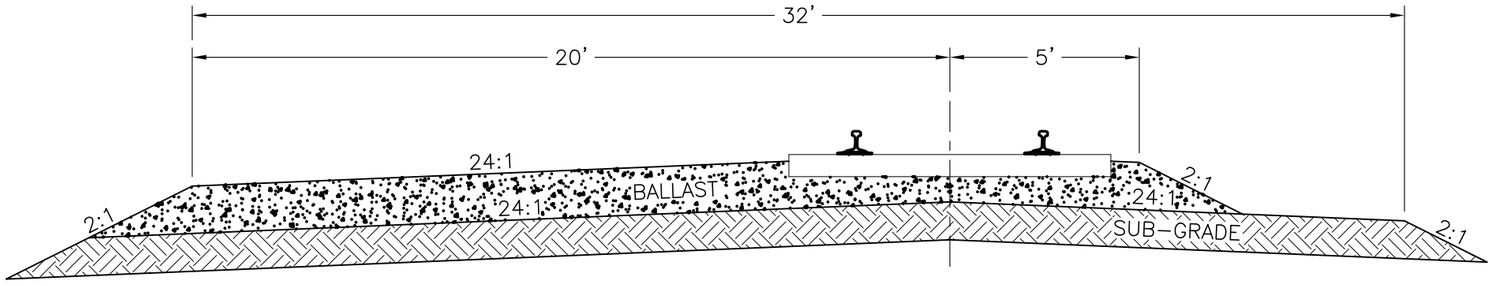
STANDARD
MAIN LINE
BALLAST SECTIONS
CONCRETE TIES

APPROVED: DATE: 1/28/04

DESIGNED BY: REH			FILE: s2.3–04.dwg
DRAWN BY: BBF	SCALE: 1" = 4'		2.3-04
CHECKED BY: REH			
APPROVED BY: TEB	DATE: 1/28/2004		



PLAN OF ROADBED
SCALE: 1/16" = 1'-0"



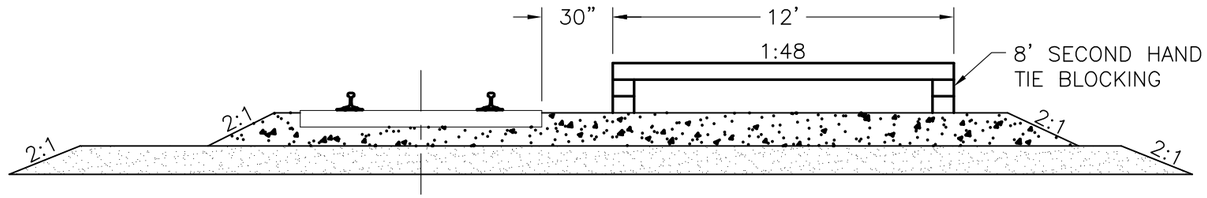
SECTION A-A
SCALE: 1/4" = 1'-0"

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

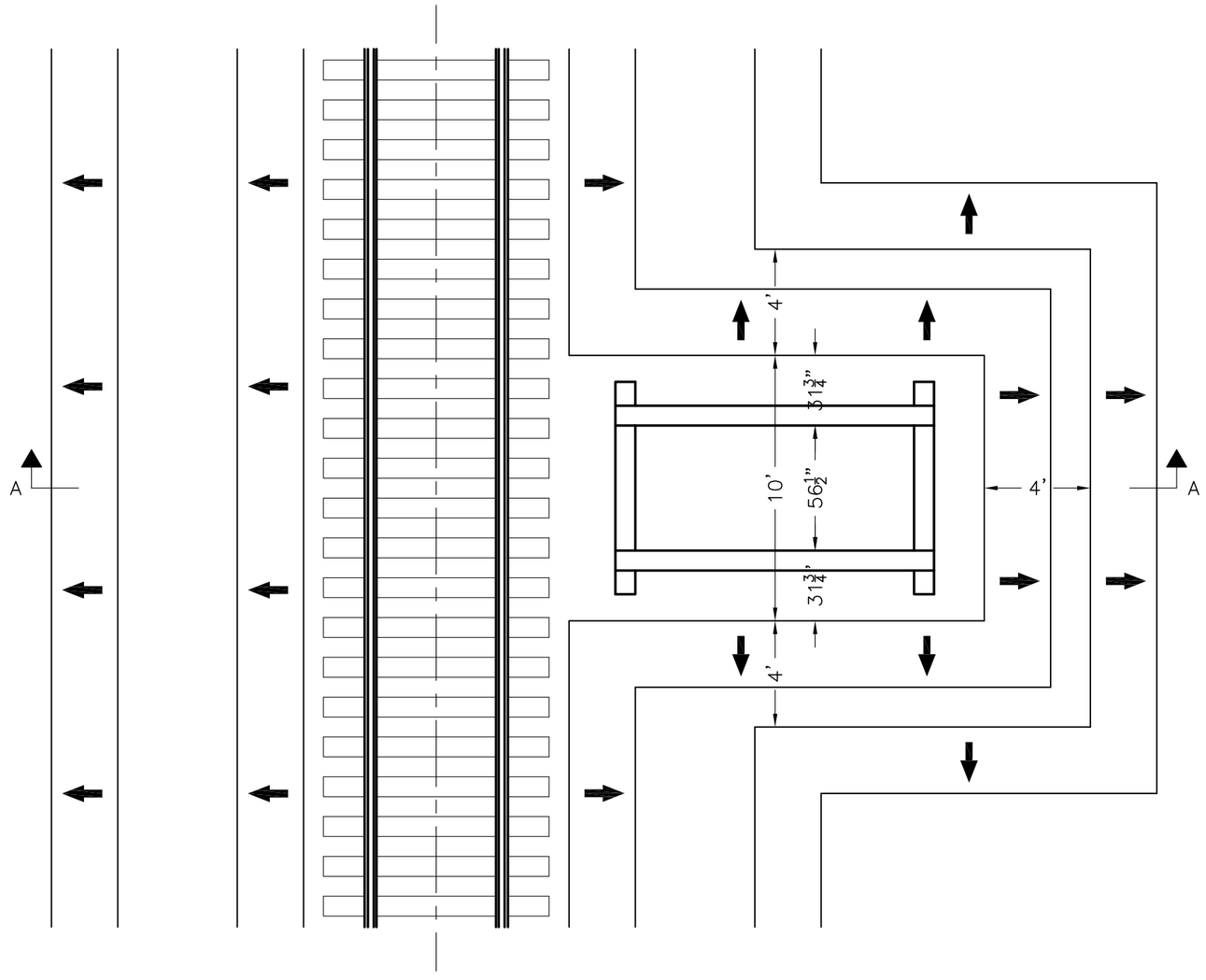
STANDARD
GRAVEL PLATFORM FOR WEIGH STATIONS

APPROVED: DATE:

DESIGNED BY:	SCALE: AS NOTED	FILE: s2-4.dwg
DRAWN BY: BBF		2.4
APPROVED BY: ENG DEPT	DATE: 5/02	



SECTION A-A
3/16" = 1'-0"



PLAN
3/16" = 1'-0"

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD

MOTOR CAR SET-OFF

APPROVED: DATE:

DESIGNED BY:	SCALE: AS NOTED	FILE: s2-5.dwg
DRAWN BY: BBF		2.5
APPROVED BY: ENG DEPT	DATE: 5/02	

REQUIRED SUPERELEVATION (INCHES)

DEGREE CURVE	SPEED (MPH) 10	15	20	25	30	35	40	45	50	55	60
0°30'	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1°00'	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1°30'	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.25	2.00
2°00'	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	2.25	3.25
2°30'	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.75	2.50	3.50	4.50
3°00'	1.00	1.00	1.00	1.00	1.00	1.00	1.50	2.25	3.25	4.50	*5.00
3°30'	1.00	1.00	1.00	1.00	1.00	1.00	2.00	3.00	4.25		
4°00'	1.00	1.00	1.00	1.00	1.00	1.50	2.50	3.75	*5.00		
4°30'	1.00	1.00	1.00	1.00	1.00	2.00	3.25	4.50			
5°00'	1.00	1.00	1.00	1.00	1.25	2.50	3.75	*5.00			
5°30'	1.00	1.00	1.00	1.00	1.50	2.75	4.25				
6°00'	1.00	1.00	1.00	1.00	2.00	3.25	4.75				
6°30'	1.00	1.00	1.00	1.00	2.25	3.75	*5.00				
7°00'	1.00	1.00	1.00	1.25	2.50	4.00					
7°30'	1.00	1.00	1.00	1.50	2.75	4.50					
8°00'	1.00	1.00	1.00	1.50	3.25	*5.00					
8°30'	1.00	1.00	1.00	1.75	3.50						
9°00'	1.00	1.00	1.00	2.00	3.75						
9°30'	1.00	1.00	1.00	2.25							
10°00'	1.00	1.00	1.00	2.50							
10°30'	1.00	1.00	1.00	2.75							
11°00'	1.00	1.00	1.25	3.00							
11°30'	1.00	1.00	1.25	3.25							
12°00'	1.00	1.00	1.50	3.25							
12°30'	1.00	1.00	1.50								
13°00'	1.00	1.00	1.75								
13°30'	1.00	1.00	2.00								
14°00'	1.00	1.00	2.00								
14°30'	1.00	1.00	2.25								

* NO SUPERELEVATION GREATER THAN 5" SHALL BE USED WITHOUT CONSENT OF THE CHIEF ENGINEER (360(g)

RATES OF RUNOFF FOR SUPERELEVATION OF CURVES

SPEED (MPH)	PREFERRED LENGTH (FEET) FOR EACH INCH CHANGE IN SUPERELEVATION	OPTIONAL LENGTH (FEET) FOR EACH INCH CHANGE IN SUPERELEVATION
(1)	(2)	(3)
20	24	20
25	29	24
30	35	29
35	41	34
40	47	39
45	53	44
50	59	49
55	65	54
60	70	59
65	76	64
70	82	69
75	88	73
80	94	78
85	100	83
90	106	88
95	111	–
100	117	–

GENERAL NOTES

1. THIS STANDARD PLAN REPLACES STANDARD PLAN 2.61
2. THIS STANDARD PLAN SUPERCEDES 360(h)

NOTES

1. COLUMN (2) IS BASED ON A RATE OF CHANGE OF SUPERELEVATION OF 1¼" PER SECOND OF TIME.
2. COLUMN (3) IS BASED ON A RATE OF CHANGE OF SUPERELEVATION OF 1½" PER SECOND OF TIME.
3. RATES INDICATED IN COLUMN (2) SHOULD BE USED IN DETERMINING THE LENGTHS OF SPIRALS AND SUPERELEVATION OF CURVES ON NEW WORK AND REALIGNMENT OF EXISTING CURVES IN HIGH-SPEED TERRITORIES. RATES INDICATED IN COLUMN (3) MAY BE USED FOR OTHER TERRITORIES AND LOCATIONS WHERE LOCAL CONDITIONS RESTRICT THE LENGTH OF SPIRAL AND RUN-OFF.
4. WHERE SPIRAL IS TOO SHORT TO PERMIT RUN-OFF AT THE PRESCRIBED RATE, A PART OF THE SUPERELEVATION MAY BE RUN OUT ON THE TANGENT (EXCEPT NO MORE THAN 3" IN CLASS 1 TRACK, 2" IN CLASS 2 TRACK, 1¼" IN CLASS 4 TRACK MAY BE PLACED ON TANGENT)(SEE NOTE 2).
5. ALL MAIN TRACK SHALL BE SPIRALED IF PRACTICAL. SPIRALS SHALL BE INSERTED BETWEEN ALL PARTS OF COMPOUND CURVES.
6. THE LENGTH OF SPIRAL OR RUN-OFF WHICH IS PROVIDED FROM THE ENDS OF THE MAIN CURVE GOVERN THE MAXIMUM SUPERELEVATION FOR THE CURVE AND THIS SUPERELEVATION SHALL GOVERN THE ALLOWABLE SPEED OF THE CURVE.
7. WHERE THE CURVES ARE NOT PROVIDED WITH SPIRALS, PROPER ELEVATION SHOULD BE GIVEN TO THE CURVE THROUGHOUT ITS LENGTH, RUN-OFF BEING MADE UNIFORMALLY ON THE TANGENT.
8. ON COMPOUND CURVES WITH NO SPIRALS OR SPIRALS OF INSUFFICIENT LENGTH ARE PROVIDED BETWEEN MAIN CURVES, THE PROPER ELEVATION MUST BE GIVEN TO THE CURVE OF GREATER DEGREE THROUGHOUT ITS LENGTH. UNIFORMALLY REDUCE THIS ELEVATION AT THE MAXIMUM PRESCRIBED RATE OF ELEVATION CHANGE UNTIL THE PROPER ELEVATION IS ATTAINED FOR THE CURVE OF LESSER DEGREE.
9. RULE 360(b), RULES AND REGULATIONS FOR THE MAINTENANCE OF WAY AND STRUCTURES, IN ALL CASES THE INNER RAIL SHALL BE MAINTAINED AT THE ESTABLISHED GRADE AND THE SUPERELEVATION SECURED BY RAISING THE OUTER RAIL ABOVE THE ESTABLISHED GRADE.

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD

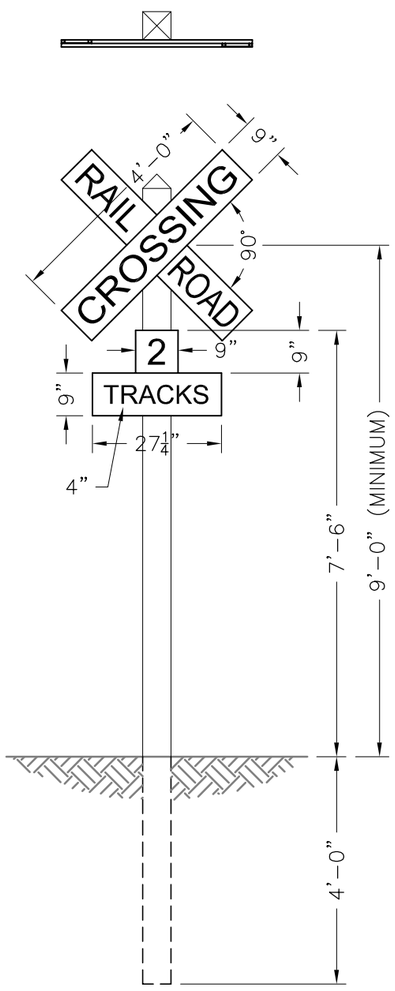
SUPERELEVATION TABLE

APPROVED: DATE:

DESIGNED BY:			FILE: s2-62.dwg
DRAWN BY:	BBF	SCALE: N/A	2.62
APPROVED BY:	ENG DEPT	DATE: 5/02	

LOCATION
ONE SIGN TO BE PLACED AT RIGHT SIDE OF ROADWAY ON EACH SIDE OF RAILROAD PERPENDICULAR TO THE ROAD FACING THE DIRECTION OF TRAFFIC. PLACE SIGN 12" FROM CENTERLINE OF NEAREST TRACK, 7' TO 10' FROM EDGE OF ROADWAY.

NOTE
BOARD ADDED TO STATE NUMBER OF TRACKS WHERE TWO OR MORE TRACKS ARE CROSSED.



HIGHWAY CROSSING SIGN
SCALE: 3/8" = 1'-0"

SIGN BOARD DETAIL
SCALE: 1" = 1'-0"

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

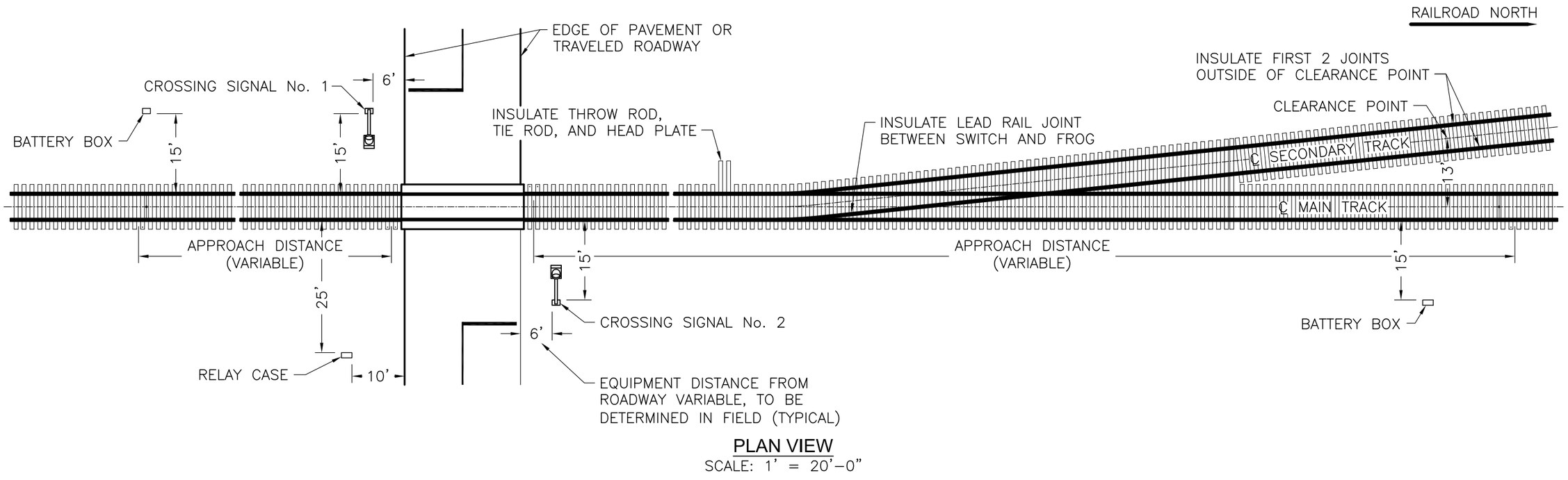
STANDARD

HIGHWAY CROSSING SIGN

APPROVED: DATE:

DESIGNED BY:		FILE: s2-65.dwg
DRAWN BY: BBF	SCALE: AS NOTED	2.65
APPROVED BY: ENG DEPT	DATE: 5/02	

U:\ACAD\ARRStandards\Standard Plans\s2-65.dwg



PLAN VIEW

SCALE: 1' = 20'–0"

SYMBOLS
—•— INSULATED JOINT
• ELECTRICAL BOOTLEG

GENERAL NOTES

1. APPROACH DISTANCES DEPEND ON TRAIN SPEED
2. REFER TO STANDARD PLAN 5.41 FOR INSTRUCTIONS ON APPLYING AND MAINTAINING INSULATED RAIL JOINTS

U:\ACAD\ARRStandards\Standard Plans\s2 BALLAST and CROSSINGS\s2–66.dwg

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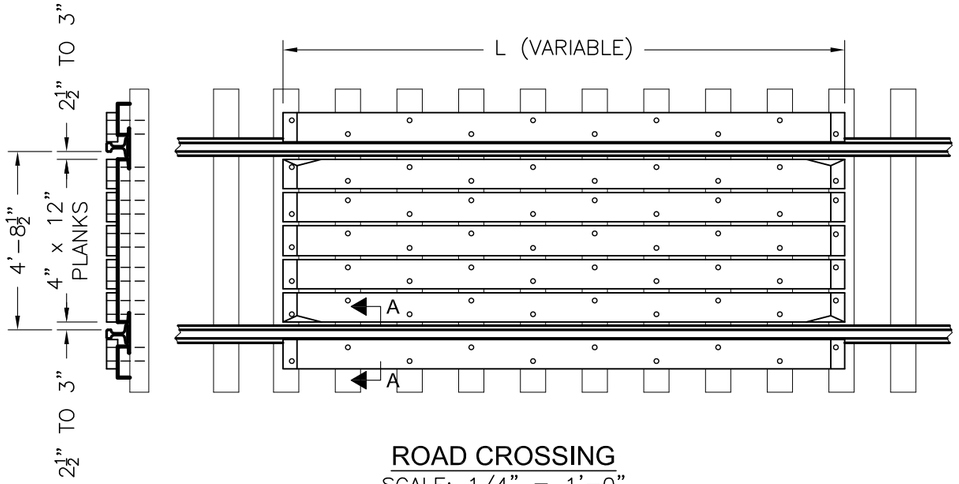
P.O. BOX 107500, ANCHORAGE, ALASKA 99510–7500 (907) 265–2456

STANDARD
HIGHWAY CROSSING SIGNAL DIAGRAM

APPROVED: DATE:

DESIGNED BY:			FILE: s2–66.dwg
DRAWN BY:	BBF	SCALE: AS NOTED	2.66
APPROVED BY:	ENG DEPT	DATE: 5/02	



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

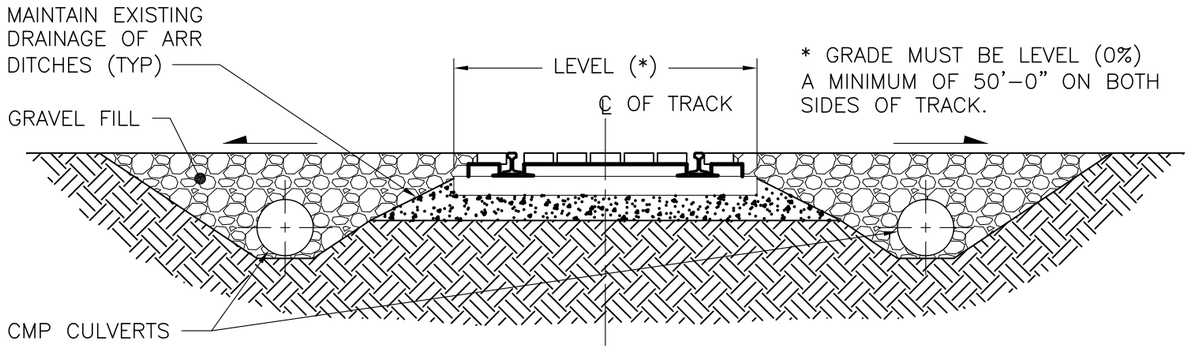
BILL OF MATERIAL FOR CROSSING	
7 PC.	4" x 10" x L LONG PLANKS
*	8'-0" LONG PLANKS FOR SHIMS
	1/2" x 12" BOAT SPIKES AS SHOWN

SHIM SIZES	
RAILS	SHIMS ON TOP OF TIES
115# R.E. WITH TIE PLATES	3" x 6" ROUGH
70# R.E. WITH TIE PLATES	1" x 6" ROUGH

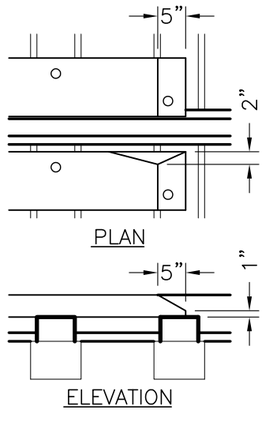
NOTES

1. BEFORE PUTTING CROSSING IN PLACE, REPLACE SUCH TIES AS WILL REQUIRE EARLY ATTENTION.
   FASTEN PLANKS TO TIES WITH ½" x 12" BOAT SPIKES AS SHOWN ON PLAN. PROVIDE SHIMS 6" WIDE ON EACH TIE UNDER PLANKING IN ORDER TO BRING TOP OF PLANKING FLUSH WITH TOP OF RAIL.
2. THIS PLAN IS TO BE USED FOR ALL NEW OR REBUILT PUBLIC CROSSINGS AND RENEWAL OF PLANKS NEXT TO FLANGEWAY OF EXISTING PUBLIC CROSSINGS.
3. FOR RIGHT ANGLE CROSSINGS THE WIDTH OF PLANKING SHALL BE NOT LESS THAN THE FULL WIDTH OF THE TRAVELED ROADWAY.
4. FOR SKEWED CROSSINGS, PLANKING SHALL BE EXTENDED 2' BEYOND EACH EDGE OF TRAVELED ROADWAY.

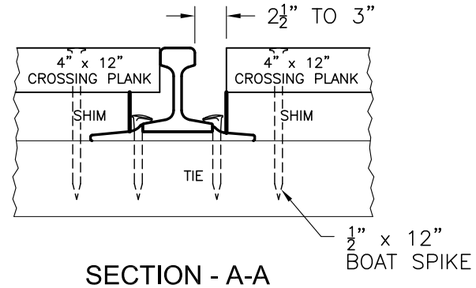
   * NUMBER OF, AND LENGTH OF SHIMS SUFFICIENT TO BE USED AS SHOWN.



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



DETAIL - END BEVEL
SCALE: 1/2" = 1'-0"



SECTION - A-A
SCALE: 1" = 1'-0"

STATE OF ALASKA
49TH
Thomas E. Brooks
NO. CE-5088
PROFESSIONAL ENGINEER

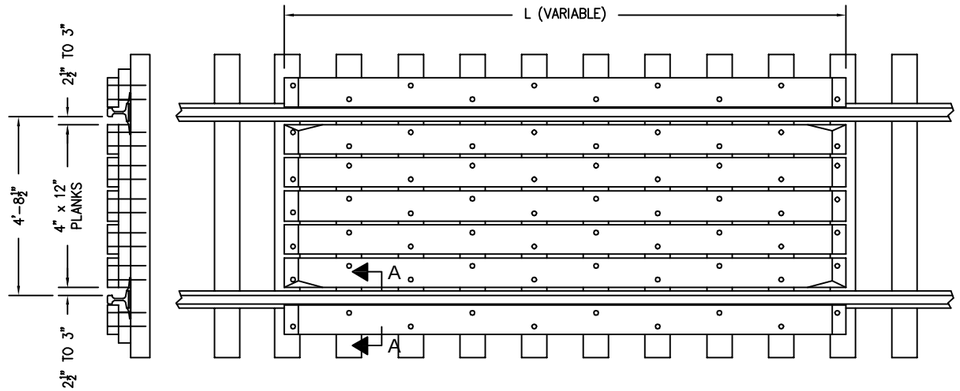
ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD

TEMPORARY ROAD CROSSING

APPROVED: DATE:

DESIGNED BY:		SCALE: AS NOTED	FILE: s2-7.03.dwg
DRAWN BY:	BBF		2.7-03
APPROVED BY:	ENG DEPT	DATE: 5/02/03	



ROAD CROSSING

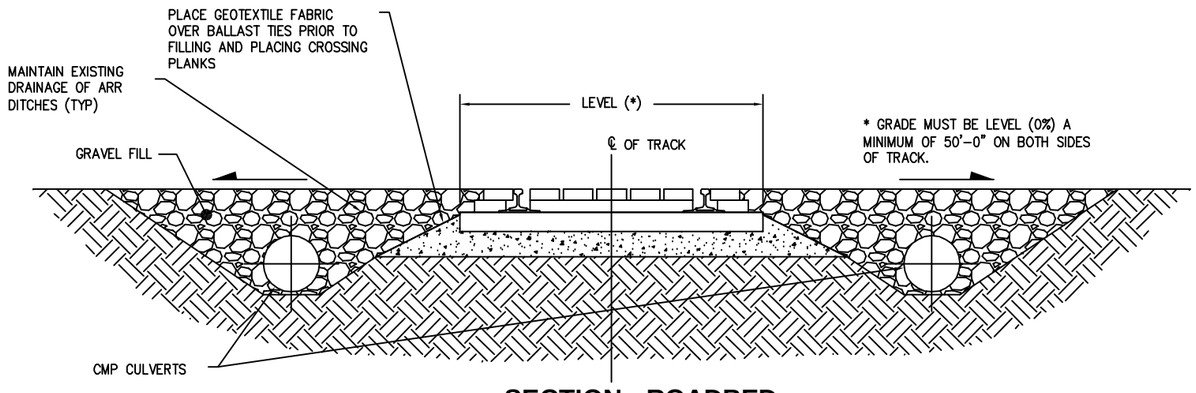
SCALE: 1/4" = 1'-0"

BILL OF MATERIAL FOR CROSSING	
7 PC.	4" x 10" x L LONG CROSSING PLANKS
*	4" x 10" CROSSING PLANKS FOR SHIMS
	1/2" x 12" BOAT SPIKES AS SHOWN

NOTES

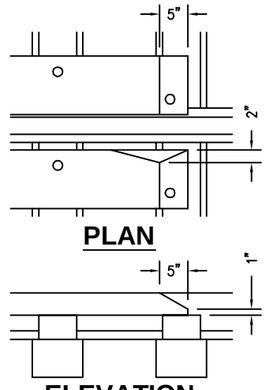
1. BEFORE PUTTING CROSSING IN PLACE, REPLACE SUCH TIES AS WILL REQUIRE EARLY ATTENTION.
2. PLACE GEOTEXTILE FABRIC ON TOP OF TIES AND BALLAST PRIOR TO FILLING APPROACHES AND LAYING PLANKS.
3. FASTEN PLANKS TO TIES WITH 1/2" X 12" BOAT SPIKES AS SHOWN ON PLAN. PROVIDE ADDITIONAL PLANKS TO BE USED AS SHIMS ON EACH TIE UNDER PLANKING IN ORDER TO BRING TOP OF PLANKING FLUSH WITH OR ABOVE TOP OF RAIL.
4. THIS PLAN IS TO BE USED FOR ALL NEW OR REBUILT PUBLIC CROSSINGS AND RENEWAL OF PLANKS NEXT TO FLANGEWAY OF EXISTING PUBLIC CROSSINGS.
5. FOR RIGHT ANGLE CROSSINGS THE WIDTH OF PLANKING SHALL BE NOT LESS THAN THE FULL WIDTH OF THE TRAVELED ROADWAY.
6. FOR SKEWED CROSSINGS, PLANKING SHALL BE EXTENDED 2' BEYOND EACH EDGE OF TRAVELED ROADWAY.

* NUMBER OF AND LENGTH OF SHIMS SUFFICIENT TO BE USED AS SHOWN.



SECTION - ROADBED

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

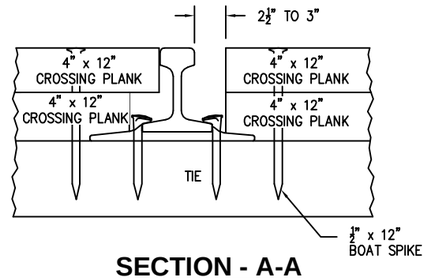


PLAN

ELEVATION

DETAIL - END BEVEL

SCALE: 1/2" = 1'-0"



SECTION - A-A

SCALE: 1" = 1'-0"

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TEMPORARY ROAD CROSSING

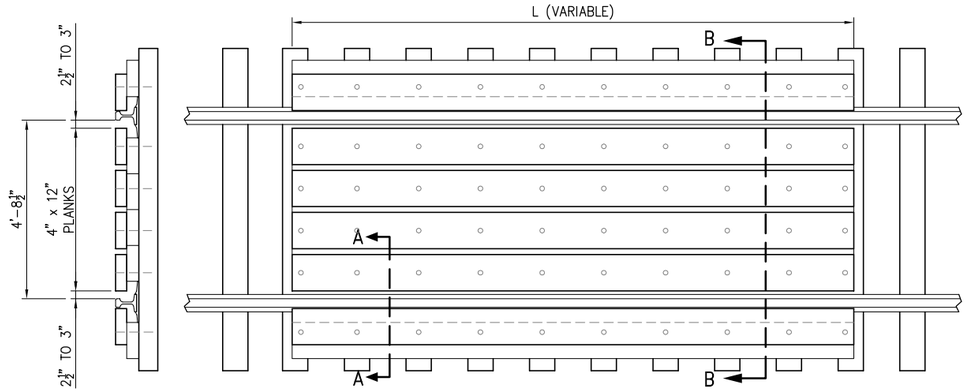
APPROVED: DATE:

DESIGNED BY:
DRAWN BY:
CHECKED BY: BBF
APPROVED BY: ENG DEPT

SCALE: AS NOTED
DATE: 7/7/2005

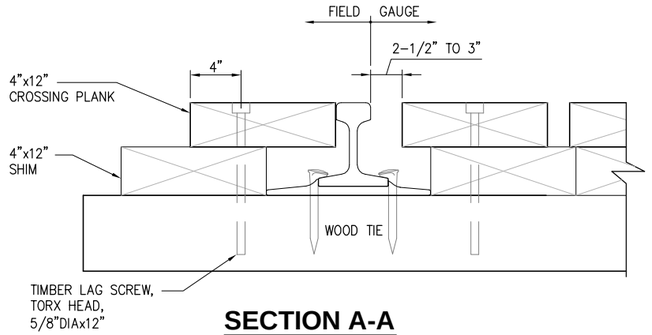
FILE: s2.7-05.dwg

2.7-05



ROAD CROSSING

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



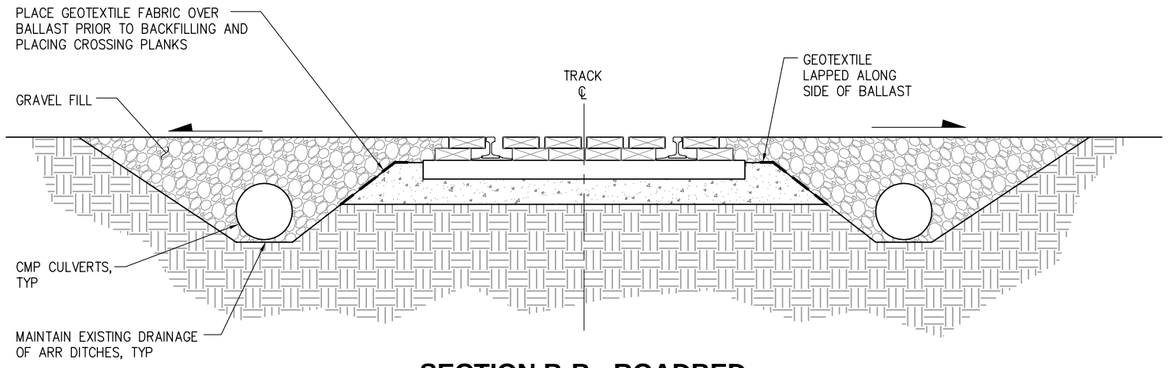
SECTION A-A

SCALE: 1" = 1'-0"

BILL OF MATERIAL FOR CROSSING	
	4" x 12" x L LONG CROSSING PLANKS
	4" x 12" CROSSING PLANKS FOR SHIMS
	TIMBER LAG SCREWS AS SHOWN

NOTES

1. BEFORE PUTTING CROSSING IN PLACE, REPLACE ALL TIES REQUIRING ATTENTION.
2. PLACE GEOTEXTILE FABRIC ALONG SHOULDER OF BALLAST PRIOR TO FILLING APPROACHES AND LAYING PLANKS.
3. FASTEN PLANKS TO TIES WITH TIMBER LAG SCREWS AS SHOWN ON PLAN. PROVIDE ADDITIONAL PLANKS TO BE USED AS SHIMS ON EACH TIE UNDER PLANKING IN ORDER TO BRING TOP OF PLANKING FLUSH WITH OR ABOVE TOP OF RAIL.
4. THIS PLAN IS TO BE USED FOR ALL NEW OR REBUILT TEMPORARY PUBLIC CROSSINGS.
5. FOR RIGHT ANGLE CROSSINGS THE WIDTH OF PLANKING SHALL BE NOT LESS THAN THE FULL WIDTH OF THE TRAVELED ROADWAY.
6. FOR SKEWED CROSSINGS, PLANKING SHALL BE EXTENDED 2' BEYOND EACH EDGE OF TRAVELED ROADWAY.
7. GRADE SHALL BE LEVEL (0%) A MINIMUM OF 50'-0" ON BOTH SIDES OF TRACK CENTERLINE.



SECTION B-B - ROADBED

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

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STANDARD

TEMPORARY ROAD CROSSING TIMBER PLANK

APPROVED: DATE:

DESIGNED BY: JCL DRAWN BY: rsm CHECKED BY: APPROVED BY: TEB	SCALE: AS NOTED DATE: 8/16/2006	FILE: s2-7.06.DWG 2.7-06

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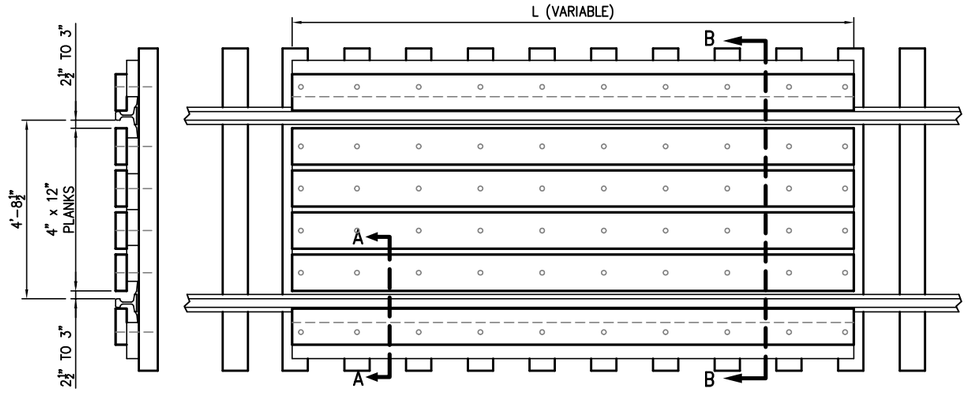
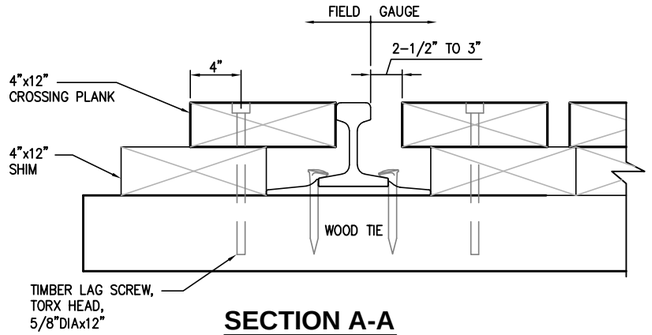


PLAN - ROAD CROSSING

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



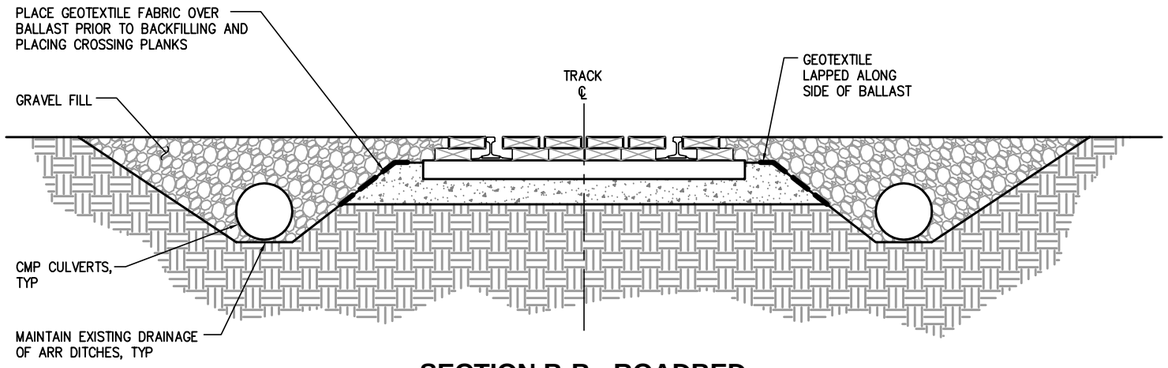
SECTION A-A

SCALE: 1" = 1'-0"

BILL OF MATERIAL FOR CROSSING	
	4" x 12" x L LONG CROSSING PLANKS
	4" x 12" CROSSING PLANKS FOR SHIMS
	TIMBER LAG SCREWS AS SHOWN

NOTES

1. BEFORE PUTTING CROSSING IN PLACE, REPLACE ALL TIES REQUIRING ATTENTION.
2. PLACE GEOTEXTILE FABRIC ALONG SHOULDER OF BALLAST PRIOR TO FILLING APPROACHES AND LAYING PLANKS.
3. FASTEN PLANKS TO TIES WITH TIMBER LAG SCREWS AS SHOWN ON PLAN. PROVIDE ADDITIONAL PLANKS TO BE USED AS SHIMS ON EACH TIE UNDER PLANKING IN ORDER TO BRING TOP OF PLANKING FLUSH WITH OR ABOVE TOP OF RAIL.
4. THIS PLAN IS TO BE USED FOR ALL NEW OR REBUILT TIMBER PLANK CROSSINGS.
5. FOR RIGHT ANGLE CROSSINGS THE WIDTH OF PLANKING SHALL BE NOT LESS THAN THE FULL WIDTH OF THE TRAVELED ROADWAY.
6. FOR SKEWED CROSSINGS, PLANKING SHALL BE EXTENDED 2' BEYOND EACH EDGE OF TRAVELED ROADWAY.
7. GRADE SHALL BE LEVEL (0%) A MINIMUM OF 50'-0" ON BOTH SIDES OF TRACK CENTERLINE.
8. RUBBER FLANGEWAY FILLER OR MUD RAIL MAY BE REQUIRED ON A PROJECT-SPECIFIC BASIS. IF REQUIRED, CUT HEAD OF MUD RAIL TO CLEAR ANGLE BARS AND BOND WIRES.
9. IF REQUIRED, CUT PLANKS 10 INCHES BEYOND EACH END OF ANGLE BAR TO CLEAR BOND WIRES.
10. ~~HUCK BOLT ALL ANGLE BARS IN AND ADJACENT TO CROSSING.~~



SECTION B-B - ROADBED

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

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STANDARD

TIMBER PLANK ROAD CROSSING

APPROVED: DATE:

DESIGNED BY: JCL
DRAWN BY: rsm
CHECKED BY:
APPROVED BY: TEB

SCALE: AS NOTED
DATE: 8/16/2006

FILE: s2-7_08.DWG

2.7-08

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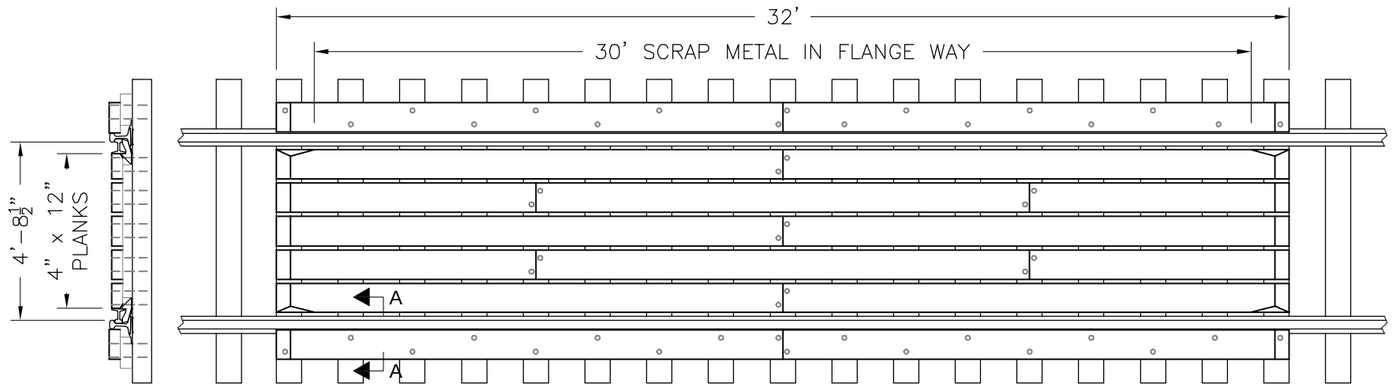
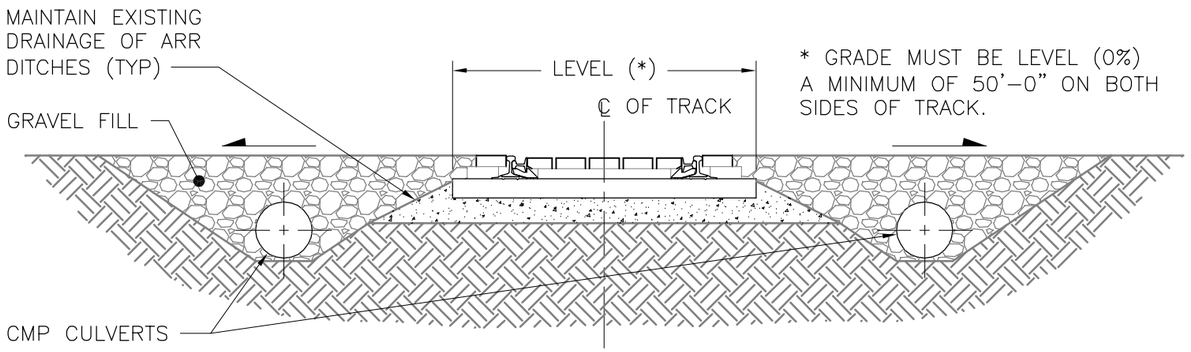
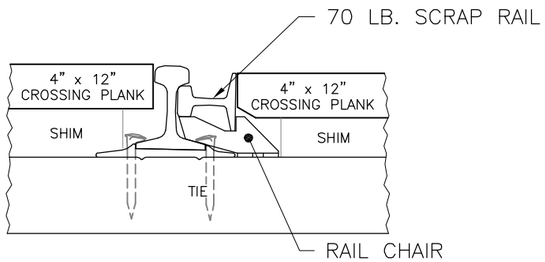


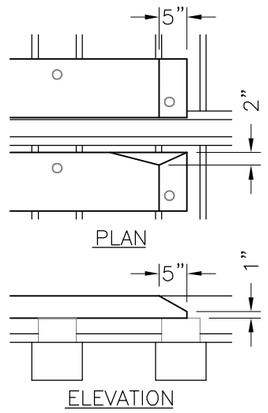
PLAN - ROAD CROSSING
SCALE: 1/4" = 1'-0"



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



SECTION - A-A
SCALE: 1" = 1'-0"



DETAIL - END BEVEL
SCALE: 1/2" = 1'-0"

BILL OF MATERIAL FOR CROSSING	
QUANTITY	DESCRIPTION
12	4" x 10" x 16'-0" LONG PLANKS
12	16'-0" LONG PLANKS FOR SHIMS
	(SEE TABLE FOR DIMENSIONS)
14	ARR STANDARD RAIL CHAIRS (REF. 2.8/2.81)
2	70# SCRAP RAIL 30'-0" LONG
143	1/2" x 12" BOAT SPIKES
28	70 LB. TRACK SPIKES
NOTE: PLANKING, INCLUDING SHIMS, SHALL BE TREATED FIR	

SHIM SIZES	
RAILS	SHIMS ON TOP OF TIES
115 LB. R.E. WITH TIE PLATES	3" x 6" ROUGH
70 LB. R.E. WITH TIE PLATES	1" x 6" ROUGH

NOTES

1. EXTEND THE CUT 10" BEYOND EACH END OF ANGLE BAR TO CLEAR BOND WIRES WHEN REQUIRED TO CLEAR THE ANGLE BAR OF A RAIL JOINT CUT HEAD OF FLANGEWAY RAIL AND WHERE TRACK IS BONDED.
2. REPLACE TIES THAT REQUIRE EARLY ATTENTION AND FASTEN PLANKS TO TIES WITH ½" x 12" BOAT SPIKES (AS SHOWN ON PLAN) BEFORE PUTTING CROSSING IN PLACE.
3. RAIL CHAIRS SHALL BE PLACED UNDER FLANGEWAY GUARD RAILS ON EVERY THIRD TIE AND SHALL BE SECURED TO TIES WITH 70 LB. TRACK SPIKES.
4. THE WIDTH OF PLANKING SHALL BE NO LESS THAN FULL WIDTH OF TRAVELED ROADWAY FOR RIGHT ANGLE CROSSINGS. PLANKING SHALL BE EXTENDED 2' BEYOND EACH EDGE OF TRAVELED ROADWAY FOR SKEWED CROSSINGS. ROADWAY TO BE SLOPED AWAY FROM CROSSING.
5. HUCK BOLT ALL ANGLE BARS IN AND ADJACENT TO CROSSING.

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STANDARD

ROAD CROSSING

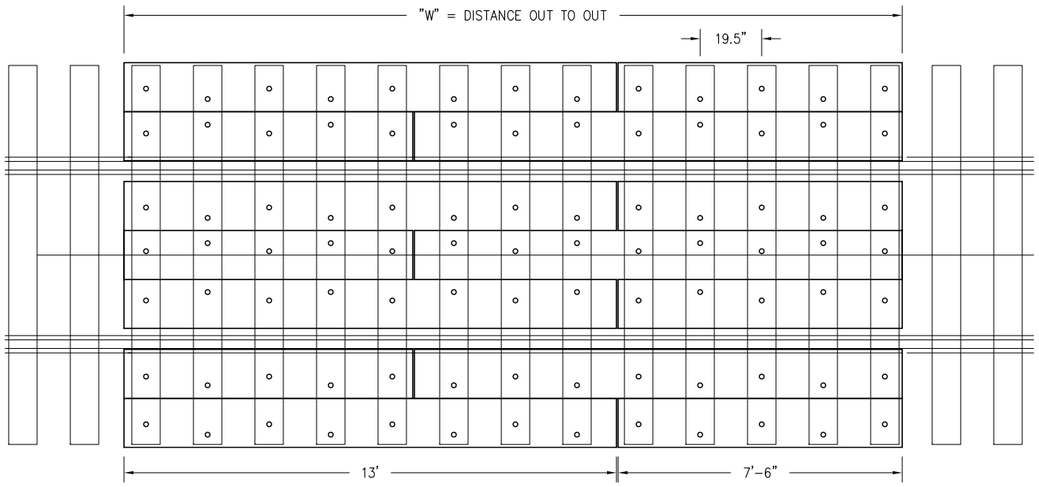
APPROVED: DATE:

DESIGNED BY:
DRAWN BY: BBF
APPROVED BY: ENG DEPT

SCALE: AS NOTED
DATE: 5/02

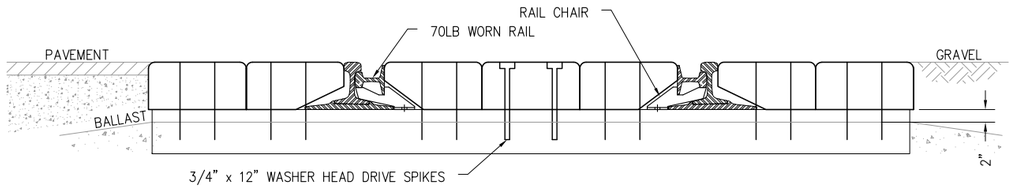
FILE: s2-71.dwg

2.71



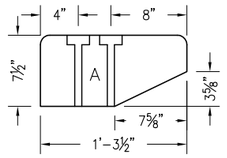
TYPICAL PLAN OF CROSSING PLANK (115# RAIL)

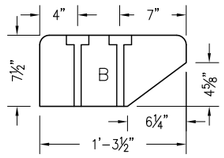
SCALE 1/4" = 1'-0"

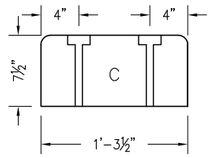


SECTION THROUGH TRACK

SCALE 1/2" = 1'-0"

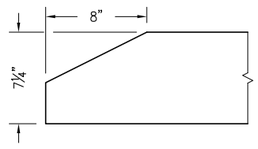






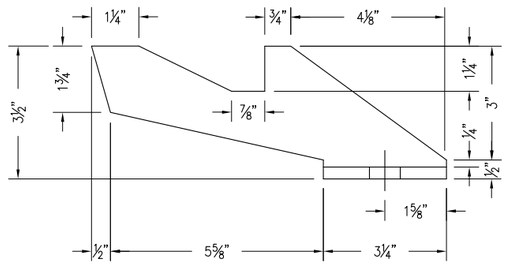
DETAIL - PLANKS A, B, & C

SCALE 3/4" = 1'-0"

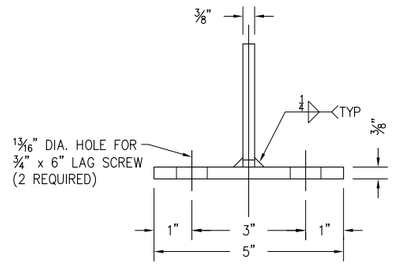


DETAIL-END BEVEL

SCALE 1" = 1'-0"



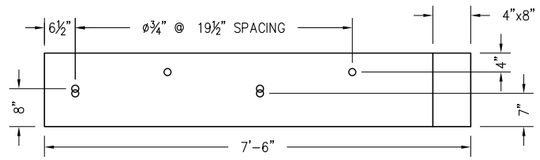
SIDE VIEW

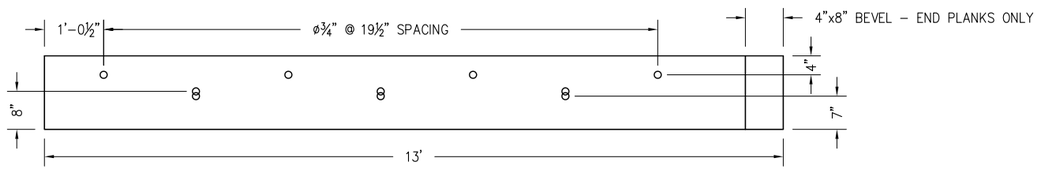


FRONT VIEW

RAIL CHAIR DETAIL

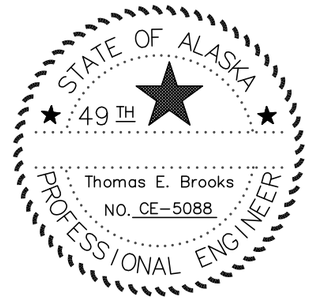
SCALE: 3" = 1'





PLANKS A, B, & C - 115# CROSSING

SCALE 3/8" = 1'-0"



ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD
SOLID TIMBER
PRIMARY ROAD CROSSING

APPROVED: DATE:

DESIGNED BY: ARRC	SCALE: AS NOTED	FILE: s2-72.04.dwg	
DRAWN BY: BBF			
CHECKED BY: REH			
APPROVED BY: TEB	DATE: 1/15/2004		2.72-04

ARRC-HALF.ctb
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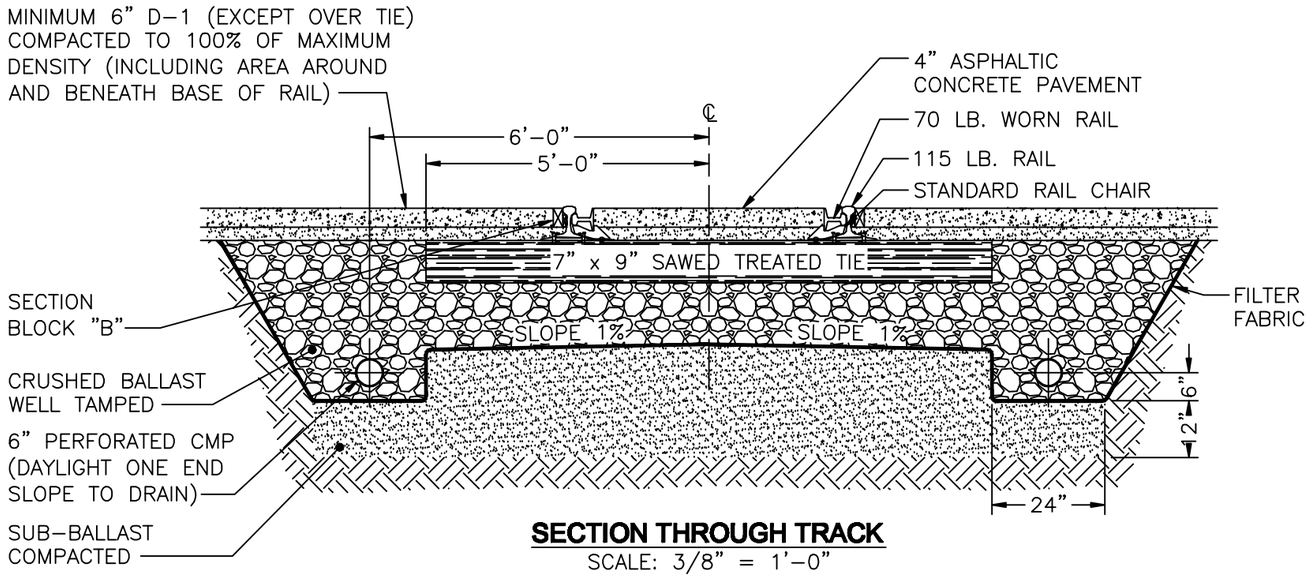
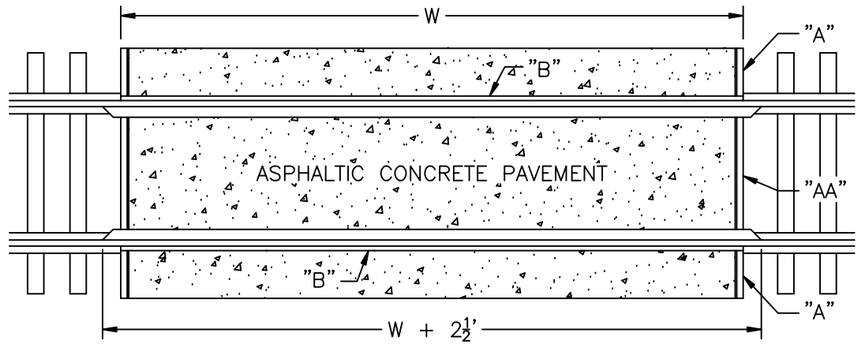
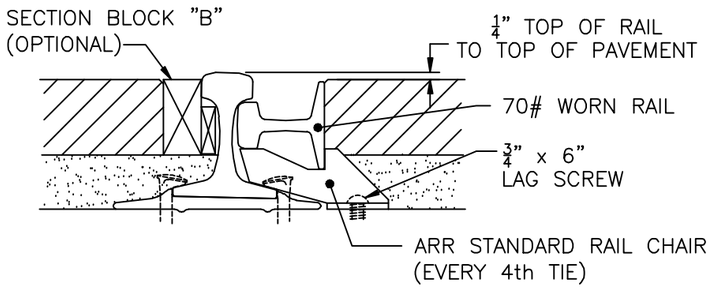


SECTION THROUGH TRACK
SCALE: 3/8" = 1'–0"



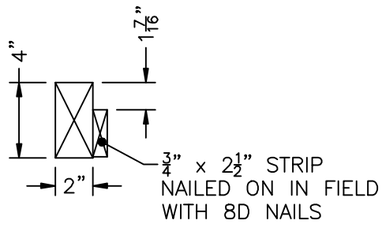
TYPICAL PLAN OF PAVED CROSSINGS
SCALE: 3/16" = 1'–0"



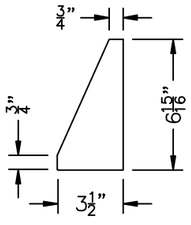
TYPICAL SECTION - 115 LB. RE RAIL
SCALE: 1–1/2" = 1'–0"

NOTES

1. TIE SPACING TO BE 19½" C/C THROUGH CROSSING.
2. ALL TIES, TIE PLATES, JOINT FASTENINGS, SPIKES, AND ASSOCIATED HARDWARE SHALL BE NEW MATERIAL, FURNISHED BY THE CONTRACTOR.
3. NEW 115 LB. RAIL WILL BE USED AT THE OPTION OF THE RAILROAD, DELIVERED AT THE JOBSITE (INSTALLATION WILL BE THE CONTRACTOR'S RESPONSIBILITY).
4. BEFORE INSTALLATION OF THE CROSSING MATERIALS, IT WILL BE NECESSARY TO RAISE THE TRACK THROUGH THE CROSSING TO PROVIDE ADEQUATE DRAINAGE.
5. THE RAILROAD REQUIRES A MINIMUM OF 3 DAYS RAIL TRAFFIC OVER THE CROSSING PRIOR TO FINAL SURFACING OF THE RAILS. AFTER FINAL SURFACING THE RAIL JOINTS SHALL BE FIELD WELDED OR HUCK BOLTED.
6. RAIL JOINTS MAY BE LOCATED WITHIN THE CROSSING IF WIDTH OF CROSSING EXCEEDS 62' SHOULDER TO SHOULDER. JOINTS MUST BE STAGGERED AND LOCATION APPROVED BY ARRC. JOINT IN CROSSING MUST BE THERMITE WELDED.



SECTION - BLOCK "B"
SCALE: 1–1/2" = 1'–0"



NOTE:
END BLOCK "A"
1'–6¼" LONG

END BLOCK "AA"
4'–1½" LONG

SPIKE BLOCK TO TIE WITH ⅝" BOAT SPIKE

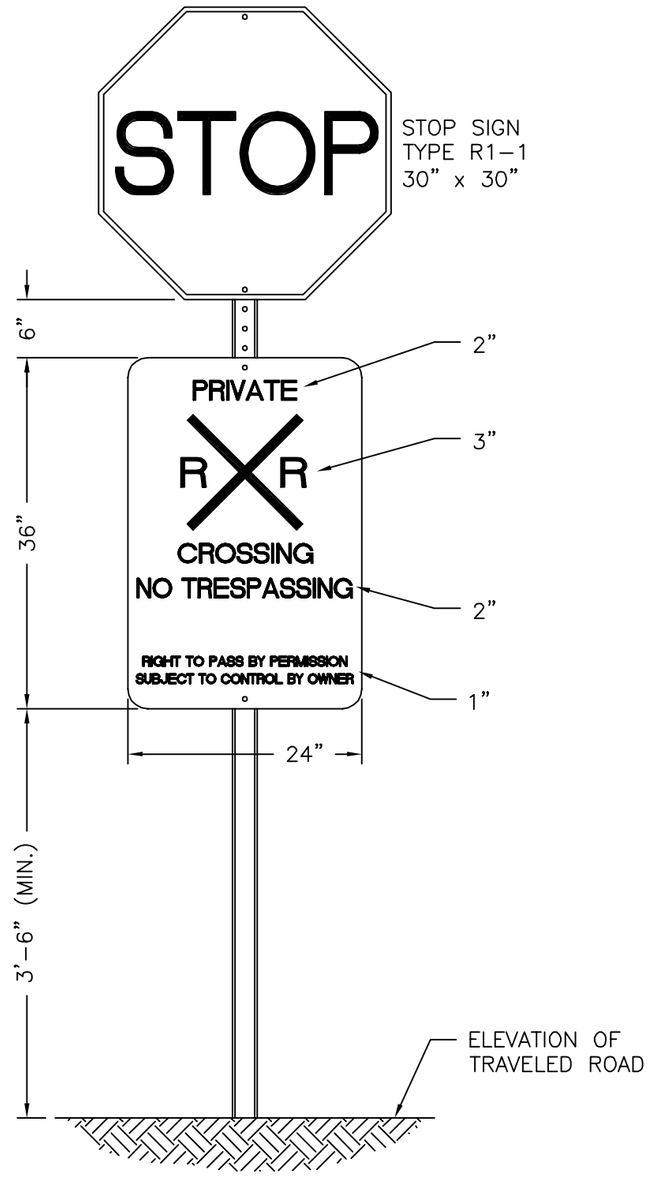
SECTION - END BLOCKS "A" AND "AA"
SCALE: 1–1/2" = 1'–0"

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510–7500 (907) 265–2456

STANDARD
ASPHALTIC CONCRETE PAVEMENT PRIMARY ROAD CROSSING

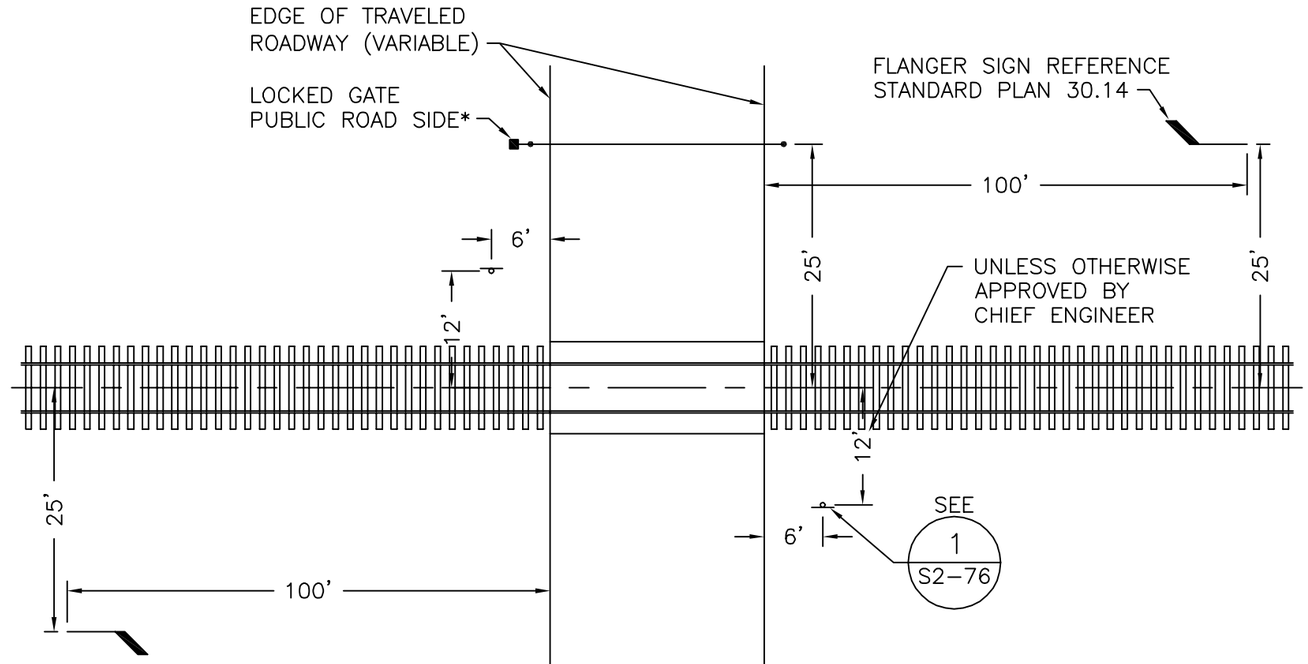
APPROVED: DATE:

DESIGNED BY:		SCALE: AS NOTED	FILE: s2.74–03.dwg
DRAWN BY:	BBF	DATE: 5/02/03	2.74-03
APPROVED BY:	ENG DEPT		



1 / S2–76 **PRIVATE CROSSING SIGN DETAIL**

SCALE: 3/4" = 1'–0"



2 / S2–76 **PRIVATE CROSSING LAYOUT**

SCALE: 1/16" = 1'–0"

* GATE MUST BE DELETED IF PROVIDED IN PERMIT. SEE STANDARD PLAN 2.77 FOR RECOMMENDED GATE.

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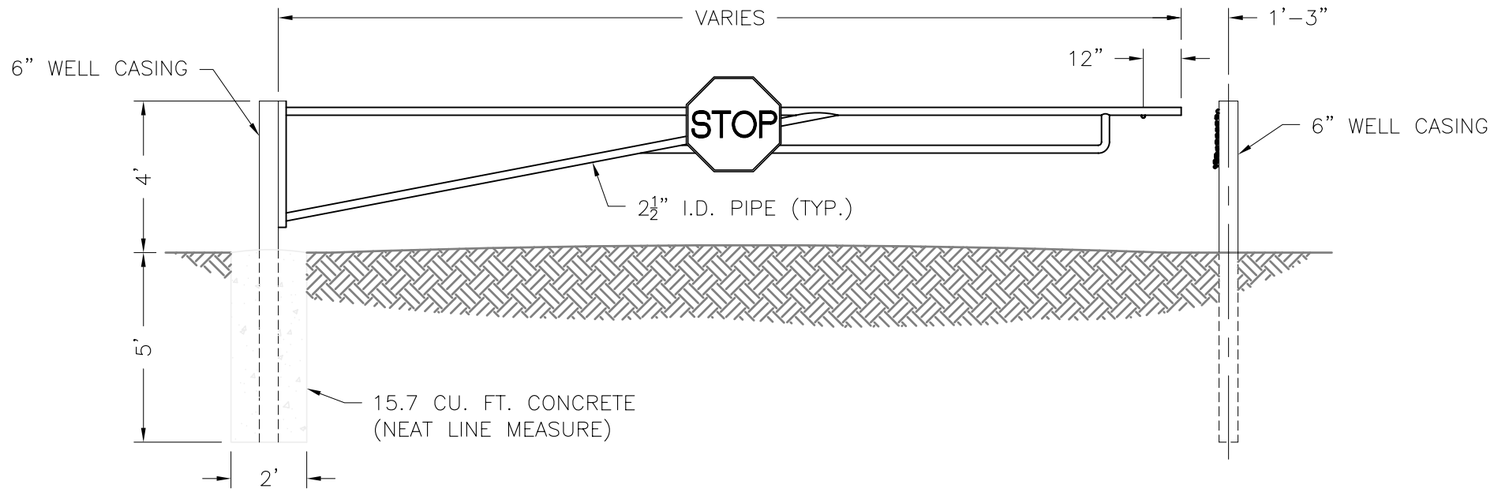
STANDARD

PRIVATE ROAD CROSSING

APPROVED: DATE:

DESIGNED BY:		SCALE: AS NOTED	FILE: s2-76.dwg
DRAWN BY:	BBF		2.76
APPROVED BY:	ENG DEPT	DATE: 5/02	



CROSSING GATE

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

NOTES
STOP SIGN REQUIRED. GATE MUST BE HINGED OR BLOCKED SO THAT IT CANNOT SWING TOWARD TRACK.

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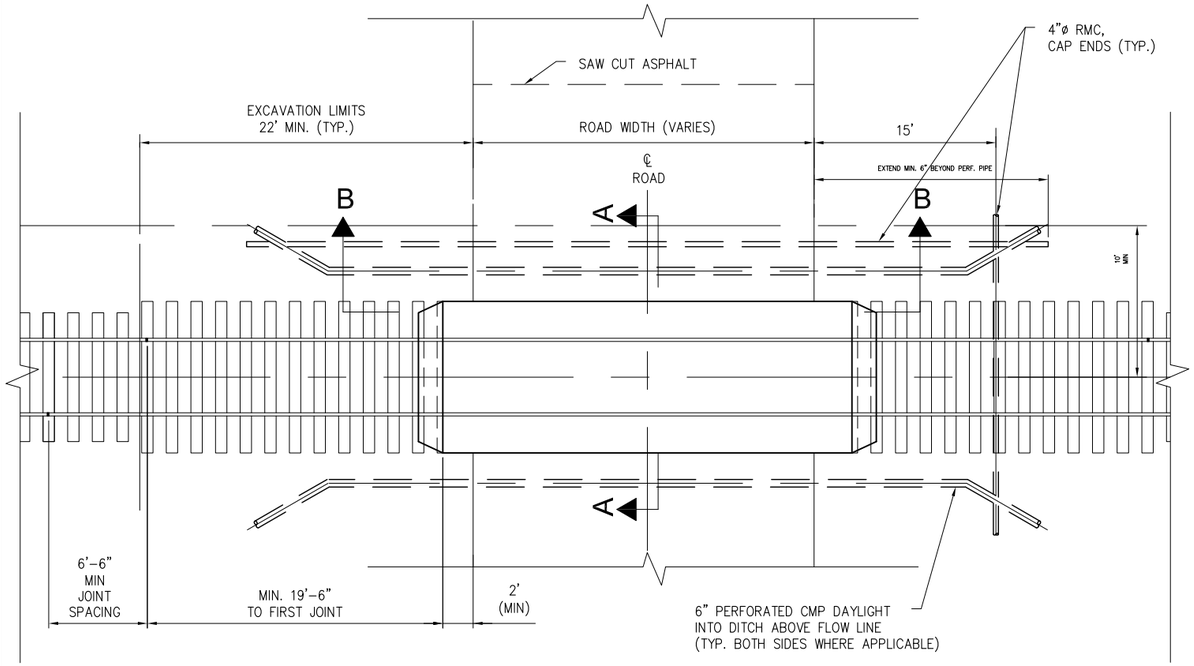
STANDARD

CROSSING GATE

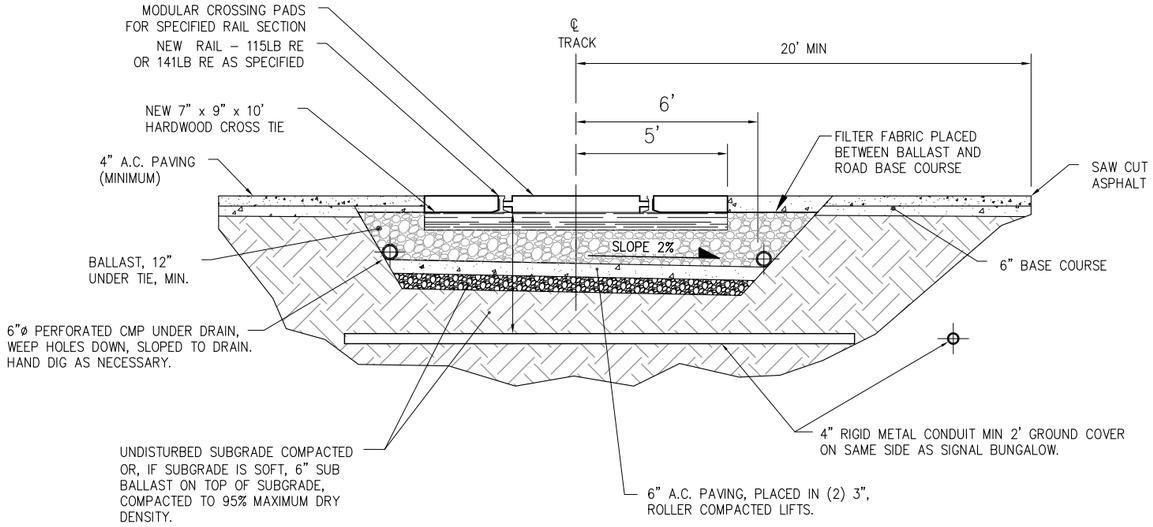
APPROVED: DATE:

DESIGNED BY:	SCALE: AS NOTED	FILE: s2-77.dwg
DRAWN BY: BBF		2.77
APPROVED BY: ENG DEPT	DATE: 5/02	



PLAN

SCALE: 1" = 10'

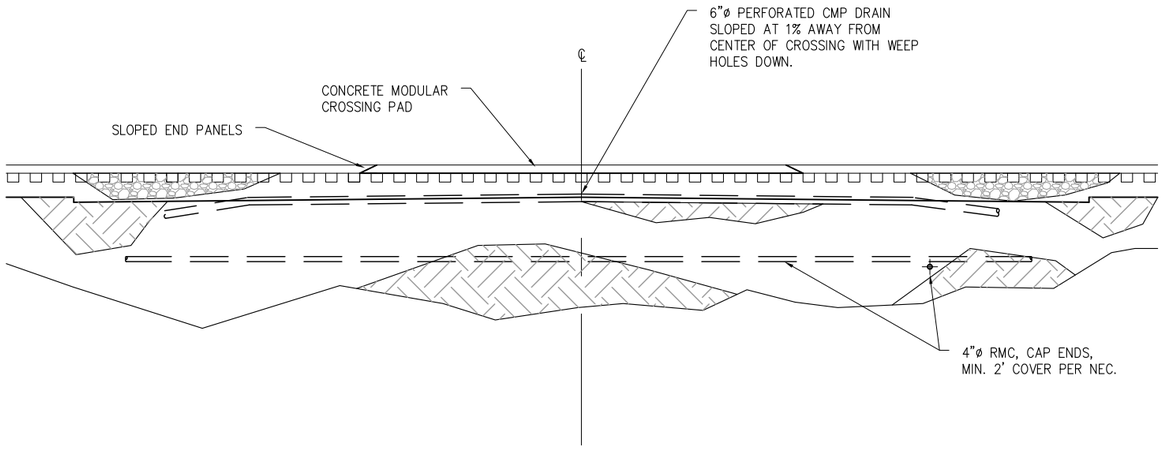


SECTION A-A

SCALE: 1" = 5'

GENERAL NOTES

1. PROVIDE NEW 7"x9"x10' HARDWOOD CROSS TIES WITH PANDROL PLATES AND E-CLIPS ON 19-1/2" CENTER-TO-CENTER (OR PER MODULAR CROSSING MANUFACTURER'S RECOMMENDATION) THROUGH CROSSING AND 12 TIES BEYOND CROSSING IN BOTH DIRECTIONS.
2. MODULAR CROSSING PADS SHALL BE 8.125' LONG AND MANUFACTURED FROM CONCRETE SPECIFICALLY DESIGNED FOR RAILROAD CROSSING APPLICATIONS. THE PARTICULAR MANUFACTURER SHALL BE REGULARLY ENGAGED IN THE FABRICATION OF RAILROAD CROSSING MATERIALS AND APPROVED BY THE CHIEF ENGINEER.
3. CROSSING PADS LOCATED WITHIN 3° OR GREATER CURVES SHALL BE DESIGNED FOR THE SPECIFIC APPLICATION.
4. ALL MODULAR CROSSING PADS, HARDWARE, AND INSTALLATION PROCEDURES SHALL BE AS RECOMMENDED BY THE MANUFACTURER AND FOR THE RAIL SIZE USED.
5. ALL RAIL JOINTS MUST BE WELDED THROUGHOUT THE CROSSING. NO JOINTS ALLOWED WITHIN 19.5' OF THE CROSSING PANEL, WITH JOINTS STAGGERED MIN. 6.5'. WELDING KITS AND WELDER PROVIDED BY THE CONTRACTOR MUST BE APPROVED BY THE CHIEF ENGINEER.
   ALL WELDS IN CROSSING SHALL BE GROUND FLUSH SO AS NOT TO INTERFERE WITH FLANGE FILLER.
6. THE INNER 2 HOLES SHALL BE DRILLED ON NEW RAIL, AND CONNECTED TO EXISTING RAIL WITH NEW 36" ANGLE BARS AND BOLTS.
7. TO MINIMIZE SETTLEMENT, KEEP EXCAVATION FOR UNDER DRAIN AND CONDUITS TO A MINIMUM. COMPACT BACKFILL IN LIFTS NOT EXCEEDING 6" TO 95% OF MAXIMUM DRY DENSITY.
8. IT WILL BE NECESSARY IN MOST CASES TO RAISE THE TRACK THROUGH THE CROSSING TO MATCH FINAL TRACK DESIGN GRADE. FINAL TRACK DESIGN GRADE SHALL BE APPROVED BY THE CHIEF ENGINEER. RUNOFF OF TRACK RAISE SHALL BE NO GREATER THAN 1/4" PER 62 FEET.
9. MINIMUM OF THREE DAYS OF RAIL TRAFFIC REQUIRED OVER NEWLY CONSTRUCTED TRACK PRIOR TO FINAL SURFACING OF THE TRACK.
10. FINAL INSTALLATION OF MODULAR CROSSING PANELS CANNOT BEGIN UNTIL FINAL SURFACING OF THE TRACK IS COMPLETED.
11. DRAINAGE FROM ROAD SURFACE SHALL NOT DRAIN TOWARD CROSSING.
12. BOX ANCHOR EVERY TIE FOR 184 TIES BEYOND CROSSING PADS IN BOTH DIRECTIONS. PANDROL PLATES COUNT AS BOX ANCHORS.



SECTION B-B

SCALE: 1" = 10'

STATE OF ALASKA
49TH
Thomas E. Brooks
NO. CE-5088
PROFESSIONAL ENGINEER

BEFORE YOU DIG
CALL FOR FREE
UNDERGROUND
LOCATION

Locate Call Center of Alaska
Anchorage Area.....278-3121
Statewide.....800-478-3121
who will notify subscribed utilities only.
Other utilities need to be contacted individually.

NO.	DATE	REVISION	BY
2.	6/20/2005	ADDED A.C. PAVING AND REVISED FILTER FAB.	BBF
1.	1/28/2004	ADDED NOTE 3. AND 141LB AB RAIL	BBF

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD

MODULAR CROSSING

APPROVED: DATE:

DESIGNED BY: REH
DRAWN BY: BBF
CHECKED BY: BBF
APPROVED BY: IEB

SCALE: AS NOTED
DATE: 6/20/2005

FILE: s2.78-05.dwg
2.78-05

ARRC-HALF.ctb
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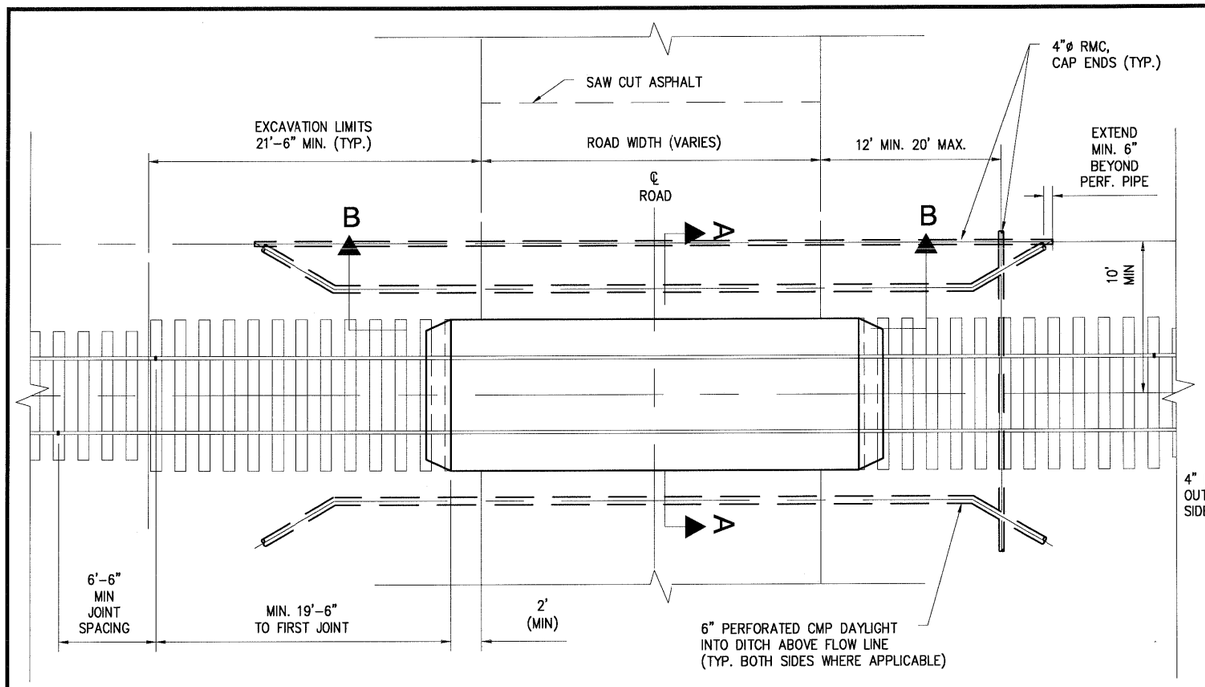
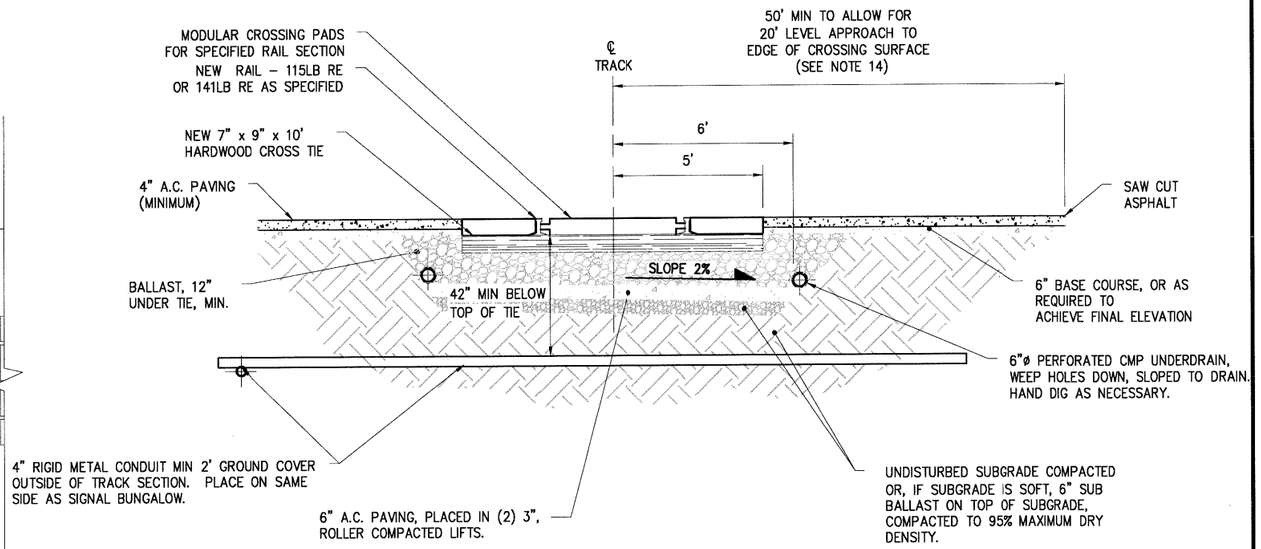


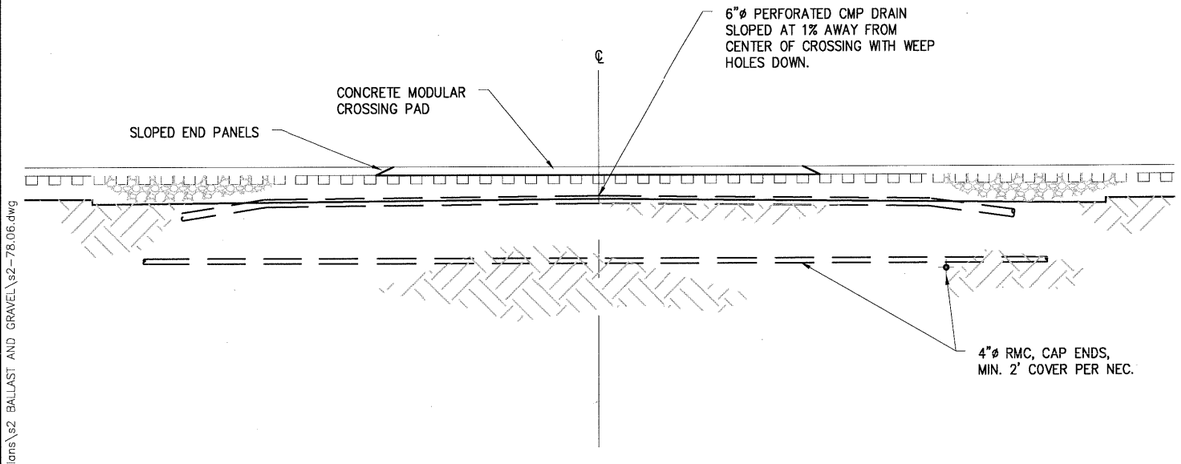
PLAN

SCALE: 1:10'



SECTION A-A

SCALE: 1:5'



SECTION B-B

SCALE: 1:10'

GENERAL NOTES

1. PROVIDE NEW 7"x9"x10' HARDWOOD CROSS TIES WITH PANDROL PLATES AND E-CLIPS ON 19-1/2" CENTER-TO-CENTER (OR PER MODULAR CROSSING MANUFACTURER'S RECOMMENDATION) THROUGH CROSSING AND 12 TIES BEYOND CROSSING IN BOTH DIRECTIONS.
2. MODULAR CROSSING PADS SHALL BE 8.125' LONG AND MANUFACTURED FROM CONCRETE SPECIFICALLY DESIGNED FOR RAILROAD CROSSING APPLICATIONS. THE PARTICULAR MANUFACTURER SHALL BE REGULARLY ENGAGED IN THE FABRICATION OF RAILROAD CROSSING MATERIALS AND APPROVED BY THE CHIEF ENGINEER.
3. CROSSING PADS LOCATED WITHIN 3° OR GREATER CURVES SHALL BE DESIGNED FOR THE SPECIFIC APPLICATION.
4. ALL MODULAR CROSSING PADS, HARDWARE, AND INSTALLATION PROCEDURES SHALL BE AS RECOMMENDED BY THE MANUFACTURER AND FOR THE RAIL SIZE USED.
5. ALL RAIL JOINTS MUST BE WELDED THROUGHOUT THE CROSSING. NO JOINTS ALLOWED WITHIN 19.5' OF THE CROSSING PANEL, WITH JOINTS STAGGERED MIN. 6.5'. WELDING KITS AND WELDER PROVIDED BY THE CONTRACTOR MUST BE APPROVED BY THE CHIEF ENGINEER. ALL WELDS IN CROSSING SHALL BE GROUND FLUSH SO AS NOT TO INTERFERE WITH FLANGE FILLER.
6. THE INNER 2 HOLES SHALL BE DRILLED ON NEW RAIL, AND CONNECTED TO EXISTING RAIL WITH NEW 36" ANGLE BARS AND BOLTS.
7. TO MINIMIZE SETTLEMENT, KEEP EXCAVATION FOR UNDER DRAIN AND CONDUITS TO A MINIMUM. COMPACT BACKFILL IN LIFTS NOT EXCEEDING 6" TO 95% OF MAXIMUM DRY DENSITY.
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11. DRAINAGE FROM ROAD SURFACE SHALL NOT DRAIN TOWARD CROSSING.
12. BOX ANCHOR EVERY TIE FOR 184 TIES BEYOND CROSSING PADS IN BOTH DIRECTIONS. PANDROL PLATES COUNT AS BOX ANCHORS.
13. EXTEND ROAD SURFACE LEVEL WITH CROSSING SURFACE A MINIMUM OF 20' BEYOND EDGE OF CROSSING.
14. FOR A TRACK ELEVATION CHANGE OF 3" OR LESS, SAW CUT AND REMOVE PAVEMENT A MINIMUM OF 50 FT FROM THE CENTERLINE. FOR EVERY 1" OF RAISE GREATER THAN 3", CUT THE ASPHALT BACK AN ADDITIONAL 10 FT.

STATE OF ALASKA
49 TH
Thomas E. Brooks
NO. CE-5088
PROFESSIONAL ENGINEER

BEFORE YOU DIG
CALL FOR FREE
UNDERGROUND
LOCATION

Locate Call Center of Alaska
Anchorage Area.....278-3121
Statewide.....800-478-3121
who will notify subscribed utilities only.
Other utilities need to be contacted individually.

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD

MODULAR CROSSING

APPROVED: DATE:

DESIGNED BY: JLS			FILE: s2-78.06.dwg
DRAWN BY: BBF	SCALE: AS NOTED		2.78-06
CHECKED BY: JLS			
APPROVED BY: TEB	DATE: 9/18/2006		

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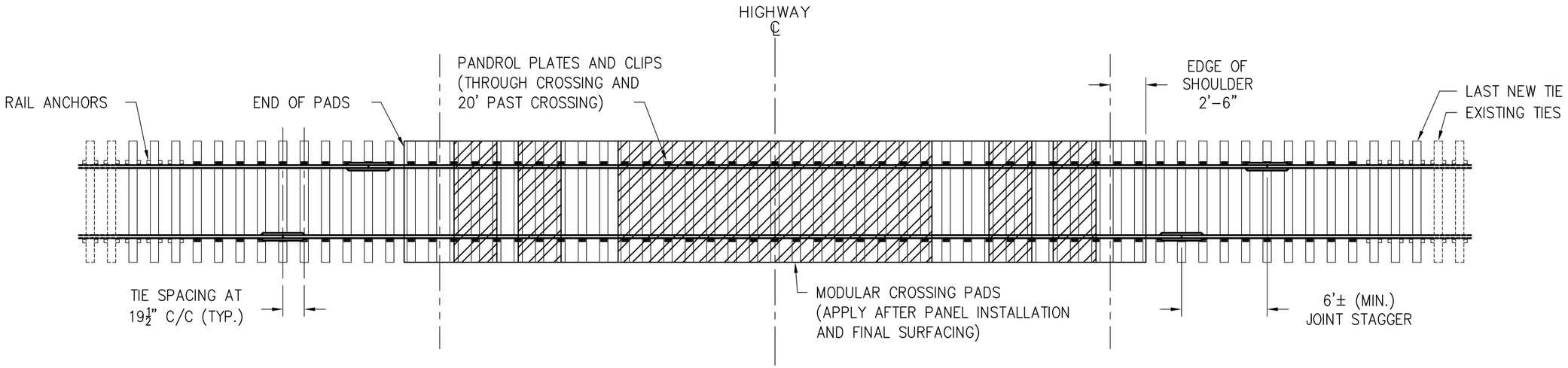
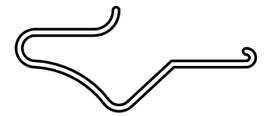


MODULAR HIGHWAY CROSSING PANEL

SCALE: 1/8" = 1'–0"



MODULAR HIGHWAY CROSSING PANEL

NOT TO SCALE

GENERAL NOTES

TIES	NEW 7" x 9" HARDWOOD CROSS TIES PER ARRC SPECIFICATIONS. LENGTH AND SPACING OF TIES SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATION FOR MODULAR PAD MATERIALS BEING USED.
PANDROL PLATES	NEW 7¾" x 14" FOR 115 LB. RAIL. ARRC STANDARD PLAN 4.12. TWO TIE PLATES REQUIRED PER TIE, EXCEPT TIES WITH PANDROL PLATES.
TIE PLATES	NEW 7¾" x 15 3/16" (P26M) TIE PLATES. REFERENCE PANDROL DRAWING No. 6255. TWO PLATES PER TIE REQUIRED ON ALL TIES THROUGH CROSSING AREA AND AT LEAST 20' BEYOND EACH END OF THE CROSSING PAD.
CAMCAR SCREWS	NEW 15/16" x 6" – 4 REQUIRED PER PANDROL PLATE, TWO ON GAUGE SIDE, TWO ON FIELD SIDE.
TRACK SPIKES	NEW ⅝" x 6", ARR STANDARD PLAN 8.1 THREE SPIKES REQUIRED PER TIE PLATE, TWO ON GAUGE SIDE, ONE ON FIELD SIDE (ARRC STANDARD PLAN 1.16).
PANDROL CLIPS	PANDROL SPRING CLIPS SPECIFICALLY DESIGNED FOR USE WITH SPECIFIED PANDROL TIE PLATES SHALL BE INSTALLED WITH EACH PANDROL PLATE AS RECOMMENDED BY MANUFACTURER.
ANCHORS	NEW UNIT RAIL PRODUCTS "UNIT IV" DRIVE–ON TYPE ANCHOR OR EQUAL. ALTERNATING TIES SHALL BE ANCHORED FOR 200' PAST EDGE OF CROSSING. EVERY THIRD TIE SHALL BE ANCHORED THEREAFTER (4 ANCHORS PER TIE). ANCHORS ARE NOT REQUIRED ON TIES WITH PANDROL PLATES AND CLIPS.
RAIL	NEW 78'–80', 115 LB. RE CARBON STEEL RAIL.
JOINT BARS	IF HIGHWAY WIDTH EXCEEDS 62' SHOULDER TO SHOULDER, TWO 78' TRACK PANELS MUST BE PROVIDED. JOINT STAGGER SHALL BE LAID AS TO ELIMINATE JOINTS WITHIN THE CROSSING AND SHALL NOT BE LESS THAN 6'. LOCATION OF ALL JOINTS MUST BE APPROVED BY ARRC PRIOR TO CONSTRUCTION OF PANELS. NEW 36" HEADFREE JOINT BARS FOR 115 LB RE RAIL ARR STANDARD PLAN 5.12. JOINT STAGGER TO BE A MINIMUM OF 6' TO BE DETERMINED IN THE FIELD.
TRACK BOLTS	NEW 1 1/16" x 6" BOLTS WITH WASHERS AND NUTS ARRC STANDARD PLAN 6.1 AND 7.0. 6 BOLTS PER JOINT.

ALASKA RAILROAD CORPORATION
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P.O. BOX 107500, ANCHORAGE, ALASKA 99510–7500 (907) 265–2456

STANDARD
MODULAR CROSSING
PANEL CONSTRUCTION

APPROVED: DATE:

DESIGNED BY:	SCALE: AS NOTED	FILE: s2–79.dwg
DRAWN BY: BBF		2.79-03
APPROVED BY: ENG DEPT	DATE: 5/02/03	

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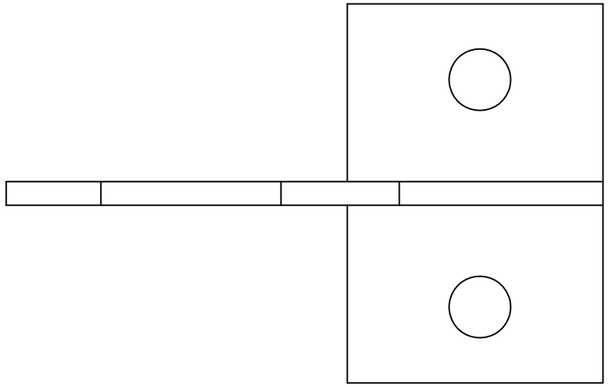
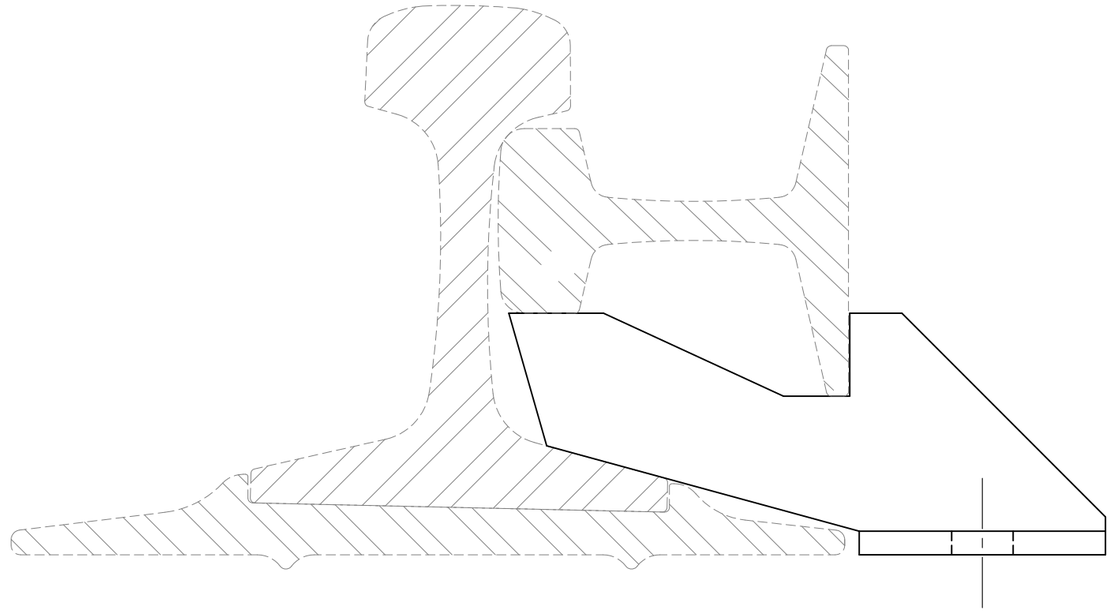
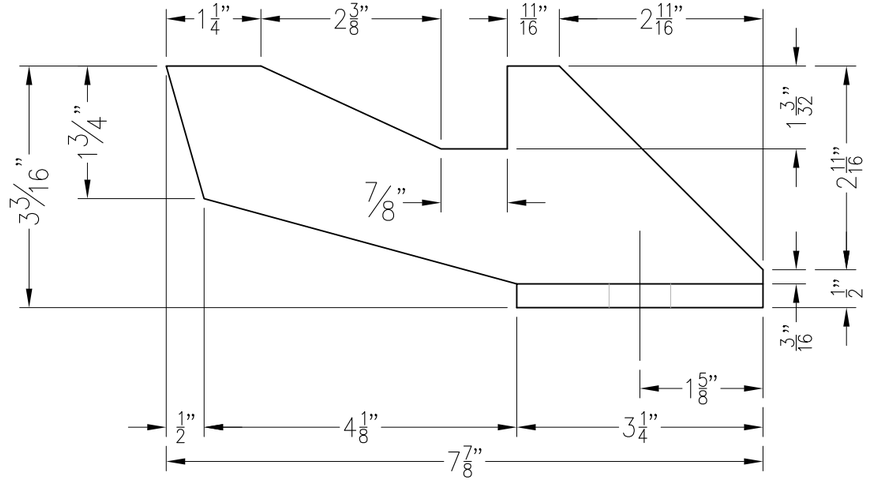


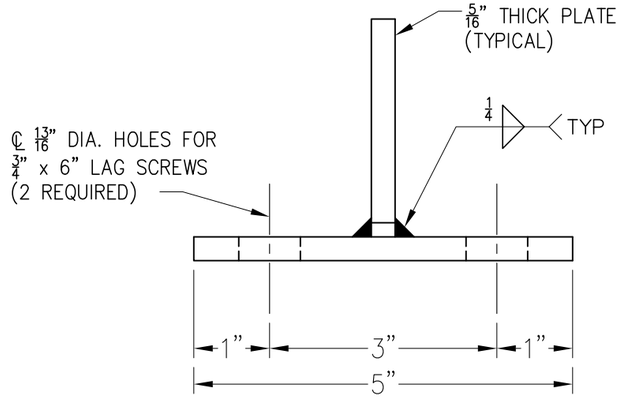
TOP VIEW
1/2"=1"



ASSEMBLED VIEW
HALF SIZE



SIDE VIEW
HALF SIZE



FRONT VIEW
HALF SIZE

5/16" CARBON STEEL

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD

RAIL CHAIR FOR 11" TIE PLATE

APPROVED:		DATE:
DESIGNED BY: ____ DRAWN BY: rsm CHECKED BY: ____ APPROVED BY: TEB	SCALE: AS NOTED DATE: 8/11/2002	FILE:s2-80.06.dwg 2.80-06

ARRC-HALF.ctb
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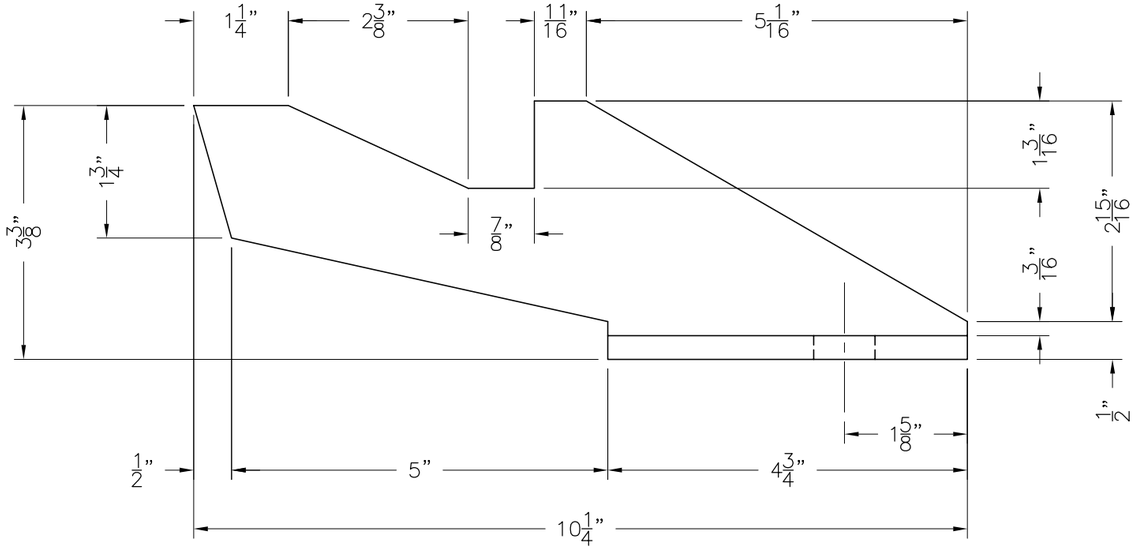
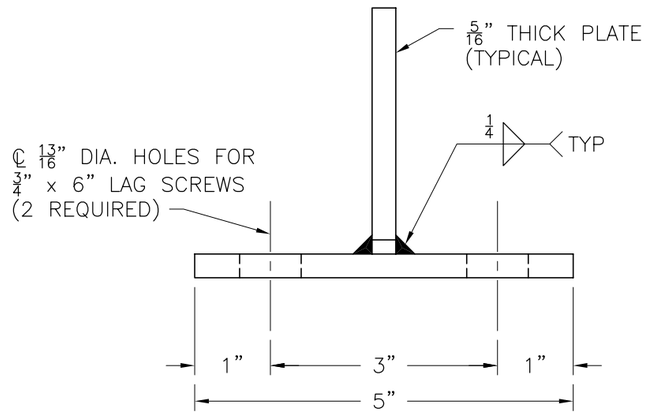
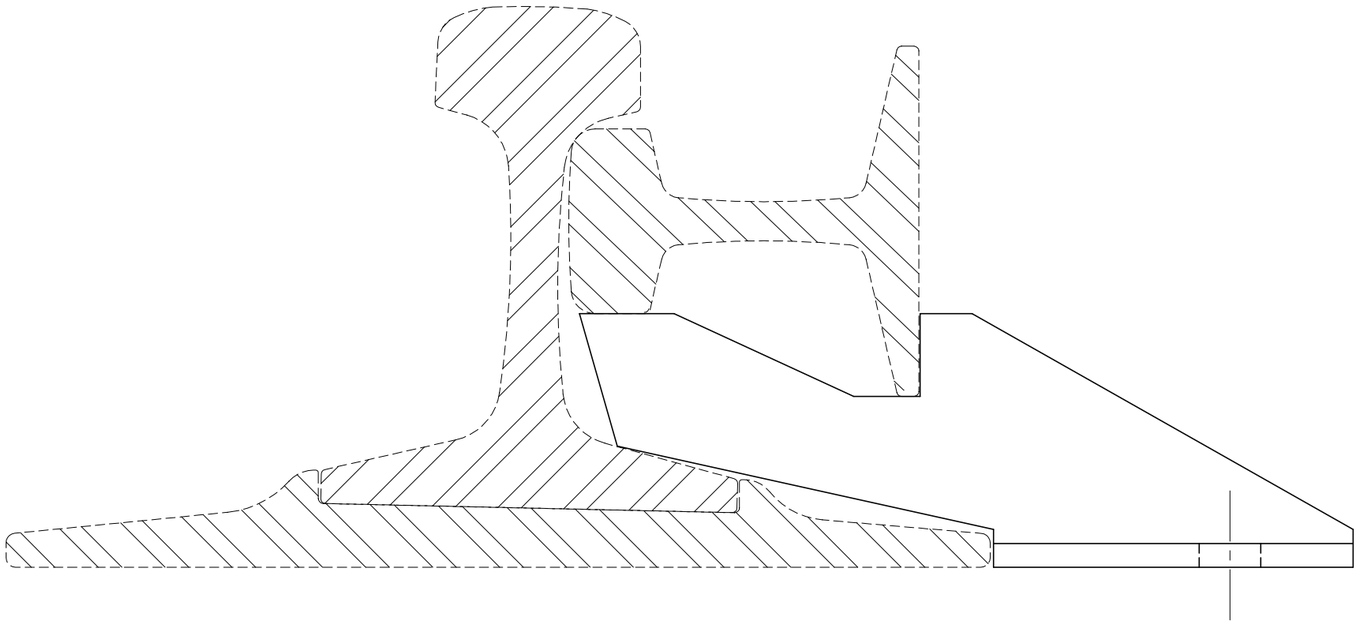


SIDE VIEW
HALF SIZE



FRONT VIEW
HALF SIZE



ASSEMBLED VIEW
HALF SIZE

5/16" CARBON STEEL

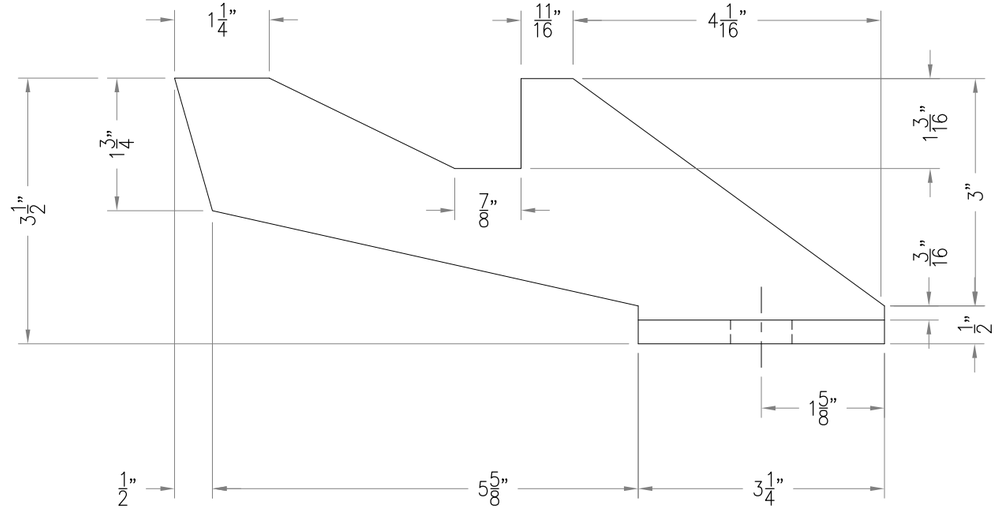
ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD

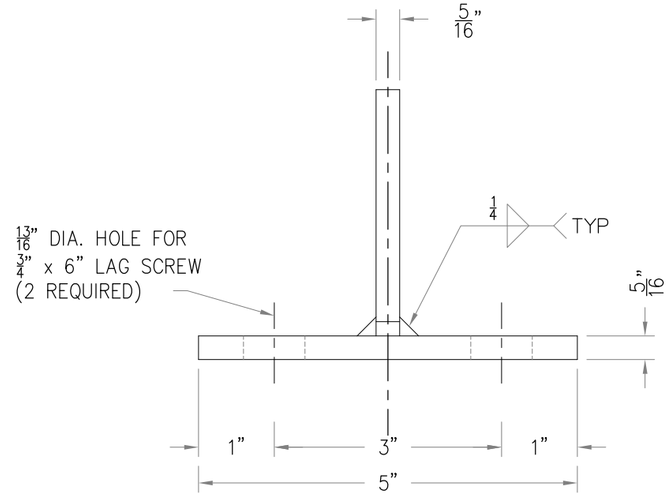
RAIL CHAIR FOR 13" TIE PLATE

APPROVED: DATE:

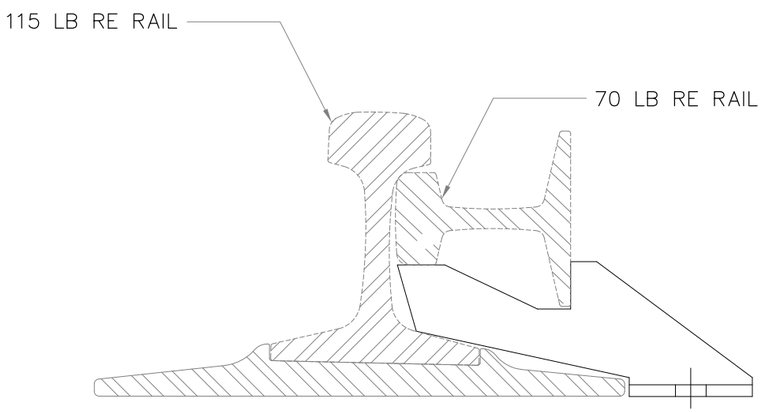
DESIGNED BY:	SCALE: AS NOTED	FILE: s2-81.dwg
DRAWN BY: BBF		
APPROVED BY: ENG DEPT	DATE: 5/02	2.81



SIDE VIEW
HALF SIZE



FRONT VIEW
HALF SIZE



5/16" CARBON STEEL

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

STANDARD
RAIL CHAIR FOR 14" TIE PLATE FOR 115 LBS TRACK W/70 LB MUD RAIL

APPROVED: DATE:

DESIGNED BY:			FILE: s2-82.dwg
DRAWN BY:	SJF	SCALE: AS NOTED	2.82
APPROVED BY:	ENG DEPT	DATE: 4/02	

LASER HALF.ctb
U:\ACAD\ARRStandards\Standard Plans\s2 BALLAST and CROSSINGS\s2-82.dwg