FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.
6	TEXAS	STP 2014(331)FRS	1
STATE DIST. NO.	COUNTY	STATE CONTROL NO.	HIGHWAY NO.
2	WISE	0902-20-113	CR 3250

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

PROJECT NO. STP 2014(331)FRS
CSJ NO. 0902-20-113
UNION PACIFIC RAILROAD COMPANY
INSTALL GRADE CROSSING WARNING DEVICES
ON CR 3250 NEAR PARADISE
WISE COUNTY - DOT NO. 598 503W

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LAYOUT SHEET
3	GENERAL NOTES
4	SIGNS & PAVEMENT MARKING LAYOUT
5	RAILROAD SIGNAL CIRCUIT LAYOUT
	STANDARD SHEETS BELOW
6	RCSS-09
7	RCPM-09

SHEET NO. 5, WIRING DIAGRAM, SHOWING RAILROAD SIGNAL CIRCUITS FOR THIS PROJECT WAS NOT DESIGNED BY THE UNDERSIGNED ENGINEER.

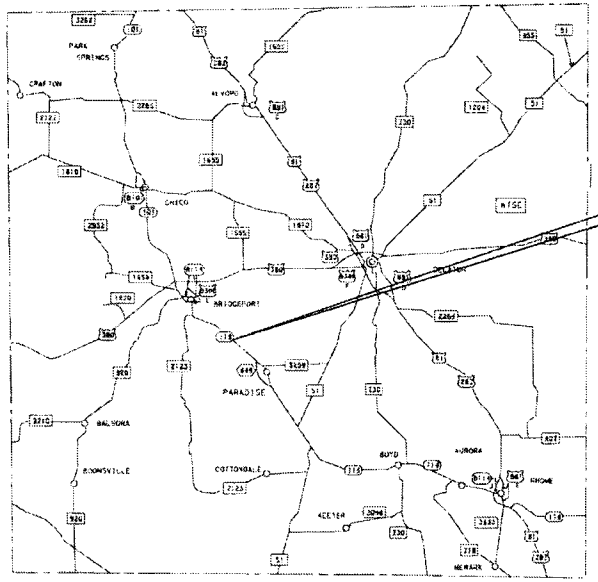
THE STANDARD SHEETS SPECIFICALLY IDENTIFIED AS SHEET NOS. 6-7 HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

Rohit T. Parikh 12-5-14

ROHIT T. PARIKH, P.E. DATE
SENIOR TRAFFIC ENGINEER

STATE OF TEXAS
ROHIT T. PARIKH
79254
REGISTERED PROFESSIONAL ENGINEER

SEAL



PROJECT LOCATION
CR 3250, DOT NO. 598 503W
UNION PACIFIC RAILROAD COMPANY
RAILROAD MILEPOST 573.62

THESE PLANS WERE DEVELOPED BY MEMBERS OF THE DIAGNOSTIC TEAM IN ACCORDANCE WITH TERMS OF THE STATE-RAILROAD AGREEMENT AND ARE HEREBY AUTHORIZED FOR CONSTRUCTION.

NOTE:
THE RAILROAD COMPANY SHALL ERECT AND MAINTAIN SUCH BARRICADES AND WARNING SIGNS OR USE SUCH PRECAUTIONS AS MIGHT BE NECESSARY, IN THE OPINION OF THE TxDOT ENGINEER, TO INSURE AND SAFEGUARD THE NORMAL USE OF THE HIGHWAY DURING THE INSTALLATION OF THIS PROJECT.

THE ASSOCIATION OF AMERICAN RAILROADS, SIGNAL SECTION, SPECIFICATIONS SHALL GOVERN FOR THIS PROJECT.

TEXAS DEPARTMENT OF TRANSPORTATION

SUBMITTED FOR APPROVAL: _____ 20___ APPROVED: _____ 20___

DIRECTOR OF TRANSPORTATION OPERATIONS — COUNTY JUDGE, WISE COUNTY

RECOMMENDED FOR APPROVAL: _____ 20___ APPROVED FOR CONSTRUCTION: _____ 20___

DISTRICT ENGINEER — DIRECTOR, TRAFFIC OPERATIONS DIVISION

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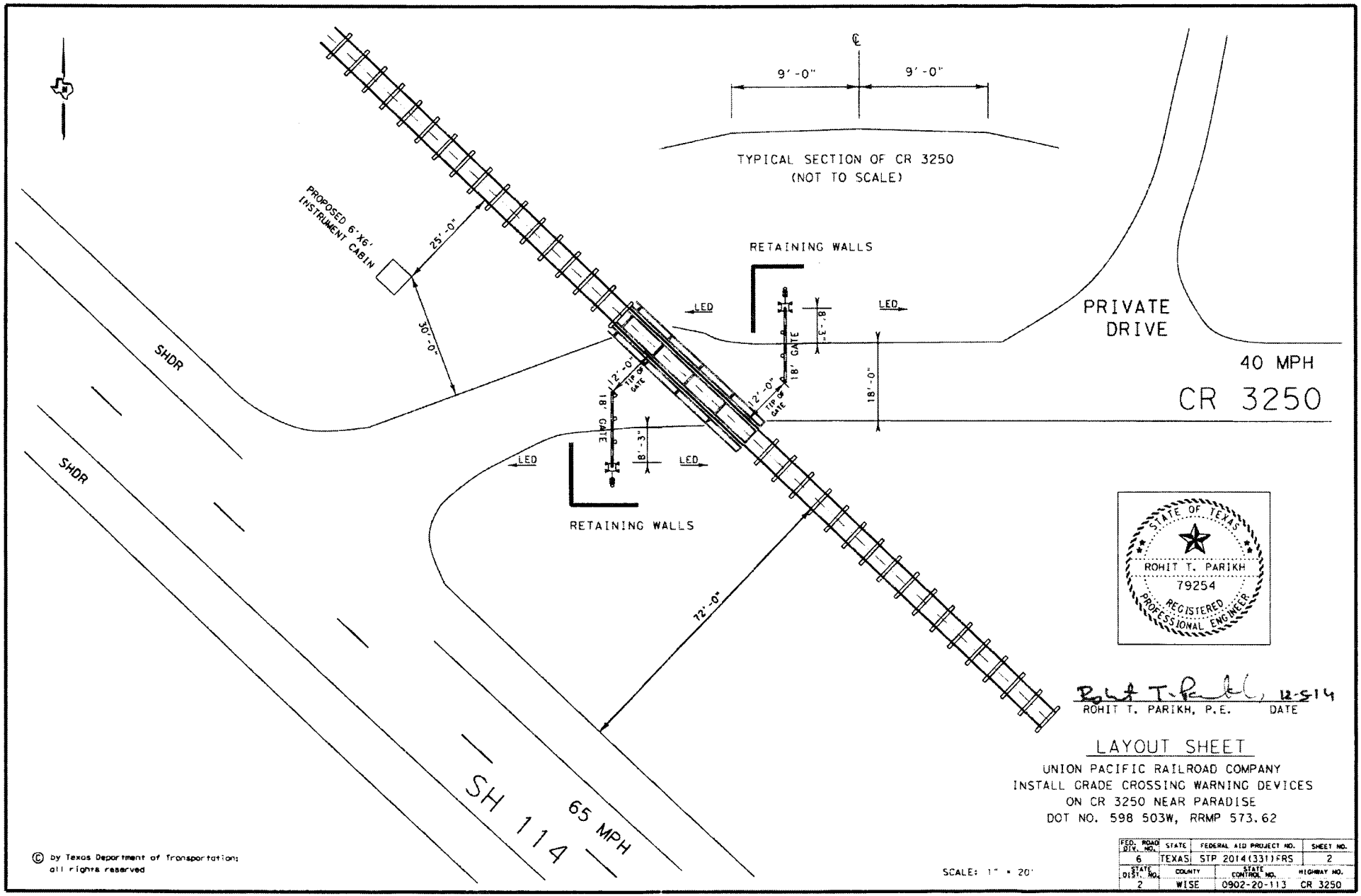

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.
6	TEXAS	STP 2014(331)FRS	2
STATE DIST. NO.	COUNTY	STATE CONTROL NO.	HIGHWAY NO.
2	WISE	0902-20-113	CR 3250

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GENERAL NOTES

1. SIGNAL CIRCUITS ARE DESIGNED TO GIVE 20 SECONDS MINIMUM WARNING TIME PRIOR TO THE ARRIVAL OF THE FASTEST TRAIN AT THIS CROSSING.
2. CONSTANT WARNING CIRCUITS ARE TO BE USED AT THIS LOCATION. NO UPGRADES REQUIRED AT THE ADJACENT RAILROAD CROSSING FOR CIRCUIT COMPATIBILITY.
3. CONDUIT, FILL DIRT AND CRUSHED COVER ROCK TO BE FURNISHED IN PLACE BY THE RAILROAD COMPANY OR ITS CONTRACTOR AT STATE'S EXPENSE.
4. THE RAILROAD COMPANY OR ITS CONTRACTOR WILL REMOVE THE EXISTING CROSS BUCKS AND DISPOSE OF THE FOUNDATIONS.
5. THE STATE OR ITS CONTRACTOR WILL FURNISH AND INSTALL OR REPLACE THE APPROPRIATE PAVEMENT MARKINGS AS OUTLINED ON THE ATTACHED LAYOUT AND STANDARD SHEET AND IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. THE STATE OR ITS CONTRACTOR WILL FURNISH AND INSTALL OR REPLACE THE FOLLOWING SIGNS IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES:
   1 EA. (W10-1), 2 EA. (W10-2). 1 EA. (W10-5P) PLACARD UNDER ALL ADVANCE WARNING SIGNS.
7. THE COUNTY AGREES TO MAINTAIN THE PAVEMENT MARKINGS AND ADVANCE WARNING SIGNS PLACED ALONG THE ROADWAYS UNDER THEIR JURISDICTION IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND AS SHOWN ON THE LAYOUT AND STANDARD SHEETS AS ACKNOWLEDGED ON THE TITLE SHEET.
8. THE RAILROAD COMPANY OR ITS CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN EMERGENCY NOTIFICATION SIGNS (ENS) AND SIGN MOUNTING BRACKETS.
9. THE RAILROAD COMPANY OR ITS CONTRACTOR SHALL STENCIL THE DOT-AAR NUMBERS ON THE SIGNAL MASTS FACING THE ADJACENT ROADWAY IN 2" BLACK LETTERING.
10. THE COUNTY AGREES TO TRIM AND MAINTAIN TREES AND VEGETATION FOR ADEQUATE VISIBILITY OF THE CROSSING SIGNALS AND ADVANCE WARNING SIGNS AS ACKNOWLEDGED ON THE TITLE SHEET.
11. THE RAILROAD COMPANY OR ITS CONTRACTOR WILL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
12. THE RAILROAD COMPANY OR ITS CONTRACTOR WILL INSTALL RETAINING WALL AS SHOWN ON THE LAYOUT AT STATES EXPENSE.

STATE OF TEXAS
ROHIT T. PARIKH
79254
REGISTERED PROFESSIONAL ENGINEER

Rohit T. Parikh 12-5-11
ROHIT T. PARIKH, P.E. DATE

DESCRIPTION OF PROJECT

TWO FLASHING LIGHT SIGNALS WITH TWO 18'FOOT LENGTH GATE ARMS AND TWO ELECTRONIC BELLS.
12"LAMP HOUSING SHALL BE USED AND EQUIPPED WITH LIGHT EMITTING DIODES (LED'S),
OPERATED AT NOT LESS THAN 8.5 VOLTS UNDER NORMAL OPERATING CONDITIONS.

GENERAL NOTES

UNION PACIFIC RAILROAD COMPANY
INSTALL GRADE CROSSING WARNING DEVICES
ON CR 3250 NEAR PARADISE
DOT NO. 598 503W, RRMP 573.62

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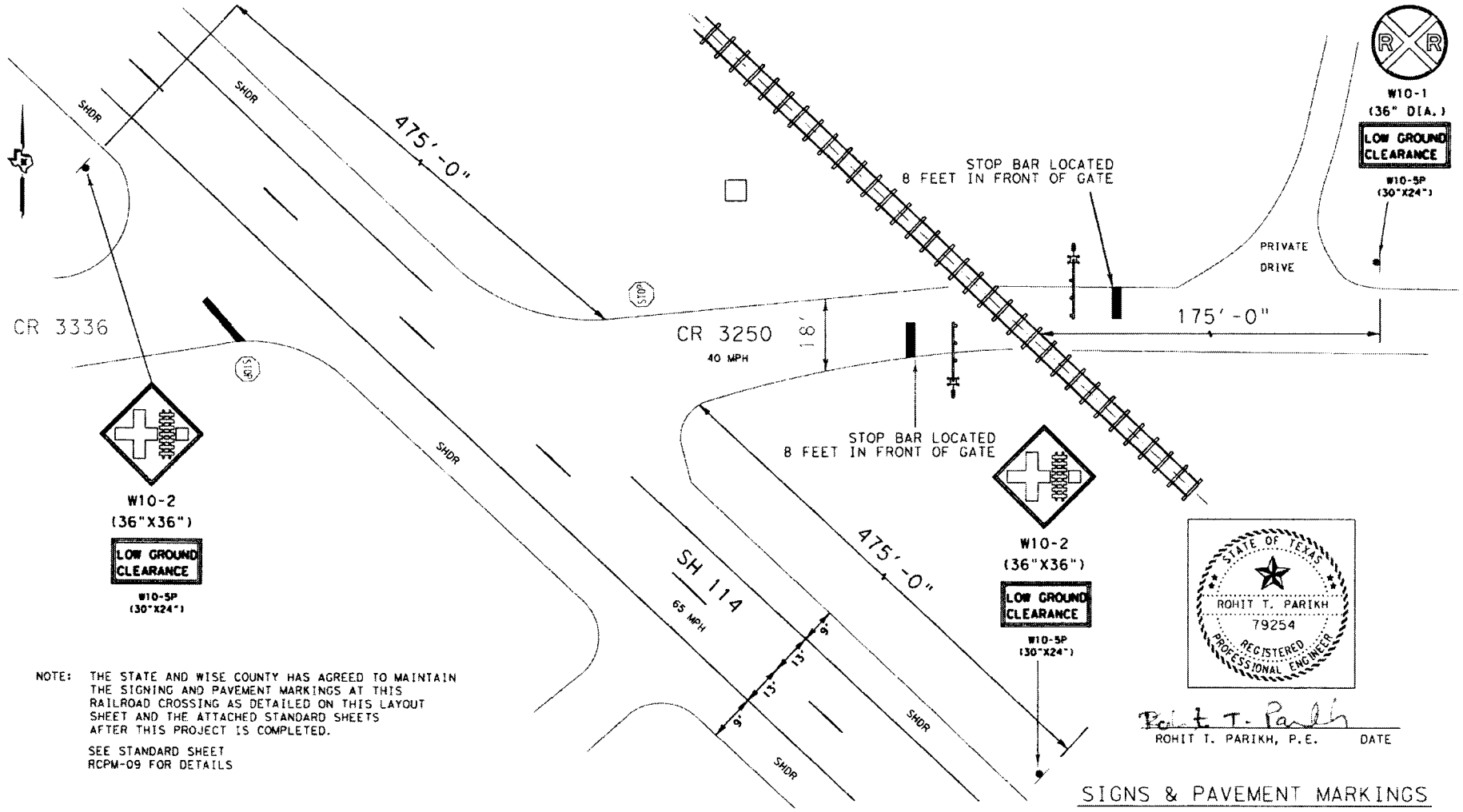
FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.
6	TEXAS	STP 2014(331)FRS	3
STATE DIST. NO.	COUNTY	STATE CONTROL NO.	HIGHWAY NO.
2	WISE	0902-20-113	CR 3250



NOTE: THE STATE AND WISE COUNTY HAS AGREED TO MAINTAIN THE SIGNING AND PAVEMENT MARKINGS AT THIS RAILROAD CROSSING AS DETAILED ON THIS LAYOUT SHEET AND THE ATTACHED STANDARD SHEETS AFTER THIS PROJECT IS COMPLETED.

SEE STANDARD SHEET RCPM-09 FOR DETAILS

STATE OF TEXAS
ROHIT T. PARIKH
79254
REGISTERED PROFESSIONAL ENGINEER

Rohit T. Parikh
ROHIT T. PARIKH, P.E. DATE

SIGNS & PAVEMENT MARKINGS

UNION PACIFIC RAILROAD COMPANY
INSTALL GRADE CROSSING WARNING DEVICES
ON CR 3250 NEAR PARADISE
DOT NO. 598 503W RRMP 573.62

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NOT TO SCALE

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.
6	TEXAS	STP 2014(331)FRS	4
STATE DIST. NO.	COUNTY	STATE CONTROL NO.	HIGHWAY NO.
2	WISE	0902-2C-113	CR 3250

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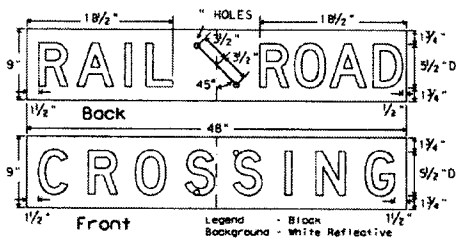
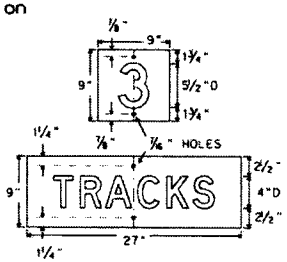
DATE:
FILE:

R15-1 Blade Detail



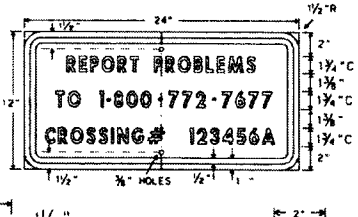
Blade cross section
ASTM B221 aluminum alloy 6061-T6 or 6063-T6

R15-2 Multiple Track Sign Detail

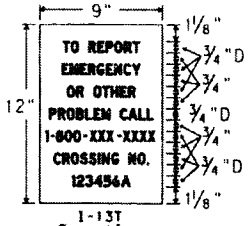


Legend - Black
Background - White Reflective

R15-4 Report Sign

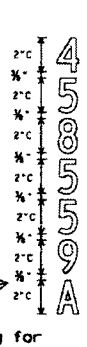


Legend - Black
Background - White Reflective

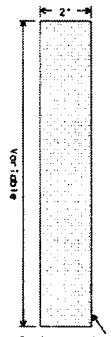


I-13T Reporting Sign

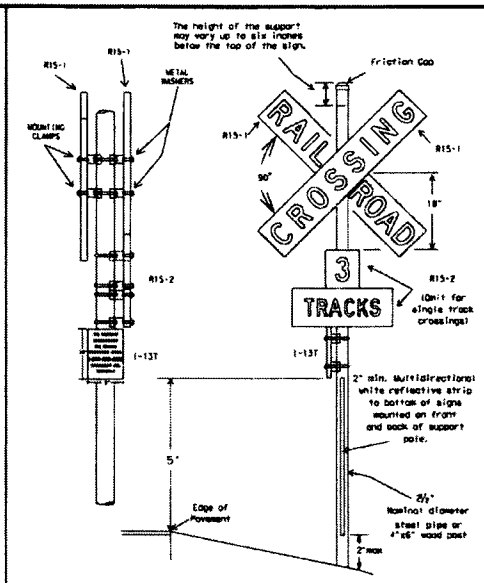
(For use at passive crossings)
Legend - White
Background - Blue
(Railroad to provide sign with telephone reporting number)



Spacing for DOT-AAR number
(See Note 6)

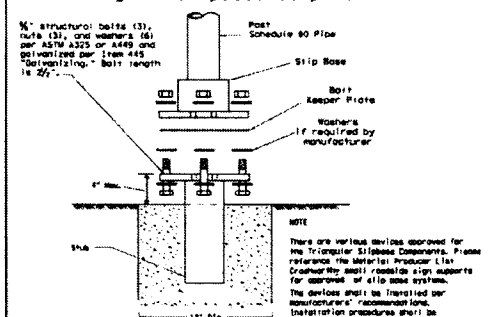


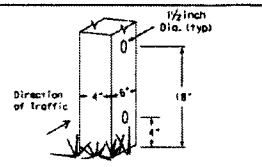
Multidirectional Reflector
(See Note 9)



Assembled Elevations
RAILROAD CROSSBUCK SIGN INSTALLATION
(NEW POLE AND FOUNDATION) (R15-1)

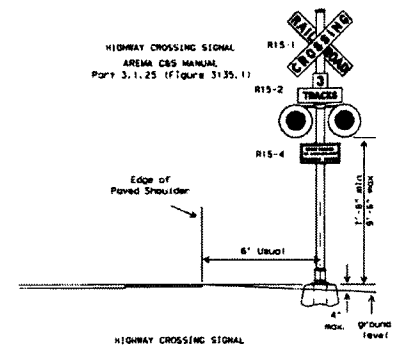
Triangular Slipbase Components

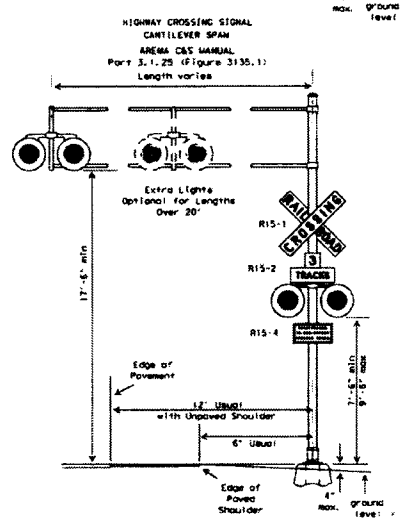


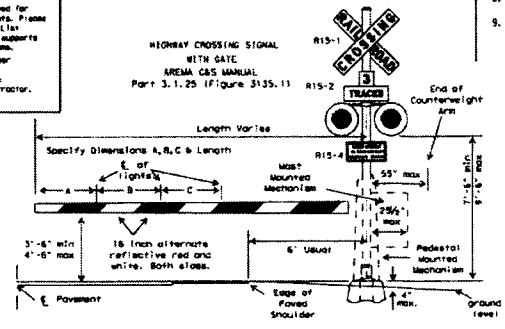


Drilled support for optional use of 4"x6" wood support post
(For use at passive crossings only.)

LATERAL CLEARANCES FOR SIGNS







R8-8
24" x 30"

DEPARTMENTAL MATERIAL SPECIFICATIONS

ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	BLUE	TYPE C SHEETING
BACKGROUND	WHITE	TYPE D SHEETING
LEGEND & BORDERS	WHITE	TYPE C SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM

GENERAL NOTES

1. All signals and installations shall conform to the American Railway Engineering and Maintenance of Way Association(AREMA) Communications & Signals Manual of Recommended Practices, Volume 1, Section 3.
2. Unfinished metal parts shall receive a prime coat of paint and a finish coat of aluminum paint. Finished aluminum parts will not require painting.
3. Railroad Company standard type signal foundations may be used. Concrete foundation surfaces exposed to view shall be finished by rubbing with a carborundum stone or equal abrasive until a smooth uniform appearance results.
4. Top of foundation to be at the same elevation as the traveled way and no more than 4 inches above the surface of the ground.
5. Any existing crossbuck sign which is in poor condition, does not conform to the Texas "Manual on Uniform Traffic Control Devices", or is not located in accordance with the plans shall be replaced and/or relocated.
6. The designated DOT-AAR number shall be placed on all crossbuck sign and signal supports at each crossing as shown on the adjacent sketch, "DOT-AAR NUMBER". At Passive crossings (un-signalized), see RCSS(2)-09. The Emergency Report sign (I-13T) shall be Blue background with White legend. The sign shall be mounted facing the roadway. The sign text should convey a clear and simple message that is visible to anyone stalled or disabled on or near the railroad tracks, and to anyone reporting other problems. At Active crossings (signalized), the Emergency Report sign (R15-4) shall be White background with Black legend. The sign shall be mounted facing the roadway approach. The Railroad may also stencil the number on the sign or signal support post using Black paint.
7. A crossbuck sign should be erected for each roadway approach and should normally be located on the right-hand side. See Standard Sheet RCPA for details. Minimum lateral clearances should be maintained between the railroad and highway, but exact locations shall be as directed by the Engineer.
   A crossbuck and R15-2 sign, indicating the number of tracks, should be installed at multi-track crossings (adjacent tracks separated by less than 100 feet).
8. Sign blanks shall be one piece 0.080 inch thick sheet aluminum alloy conforming toDMS-7110, Aluminum Sign Blanks.
9. Multidirectional reflectors shall be white reflective sheeting with pressure sensitive adhesive conforming with Departmental material DMS - 8300, Sign Face Material

Texas Department of Transportation
Traffic Operations Division

RAILROAD CROSSING SIGNS AND SIGNALS

RCSS(1)-09

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REVISIONS		DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
4-92					
8-95		0902 90	113		CR 3250
4-98					
8-09		DIST	COUNTY		SHEET NO.
		2	WISE		6

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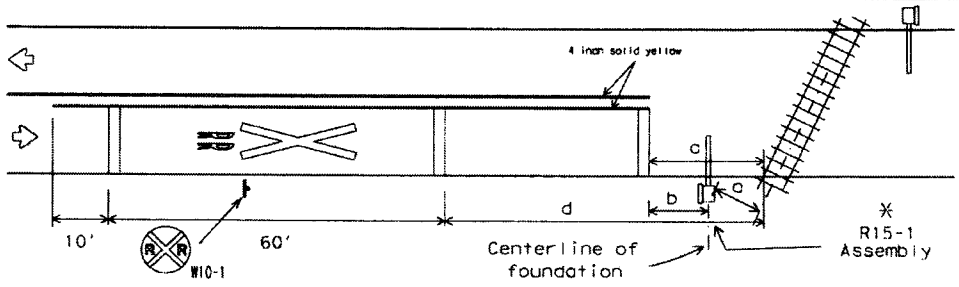
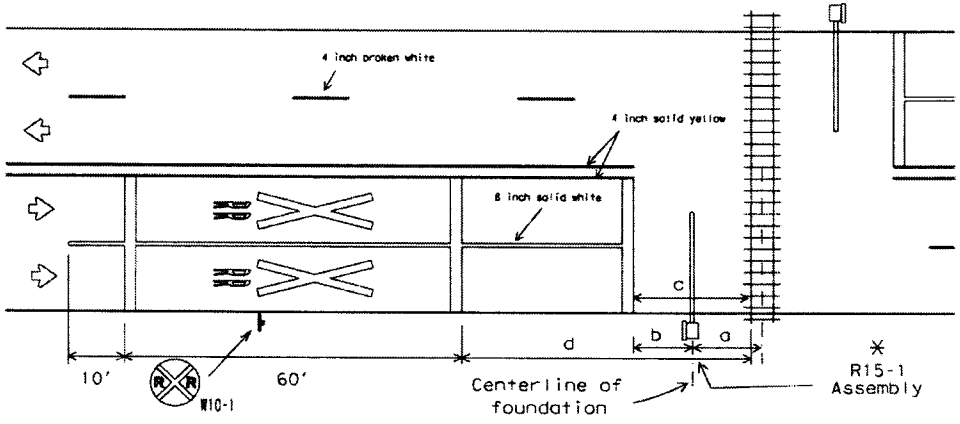
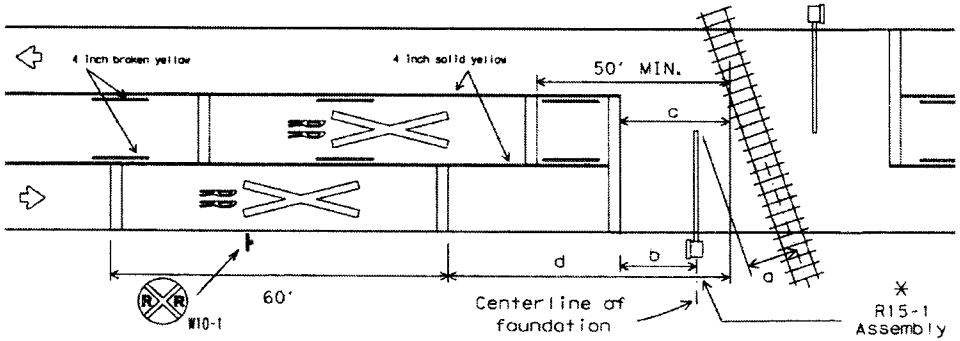


Two Lane, Two-Way



Undivided Multilane Roadway



Two-Way Left Turn Lane (TWLTL)

a =

12 feet minimum, 15 feet usual, if active warning devices are present. Distance "a" should be measured from the centerline of * R15-1 assembly to the centerline of nearest track.

b =

Stop lines should be approximately 8 feet in advance of the active warning devices.

Stop line should be approximately 15 feet from near rail if only passive devices (R15-1, plus R15-2 when applicable) are present.

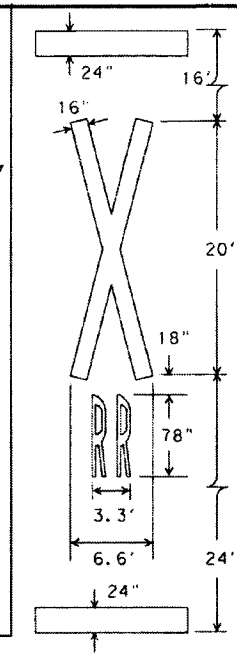
c =

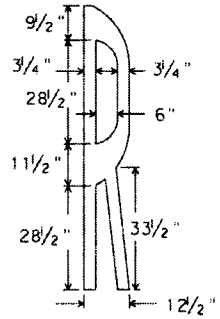
15 feet desirable minimum. R15-1 should be placed between stop line and rails with adequate distance provided for "a".

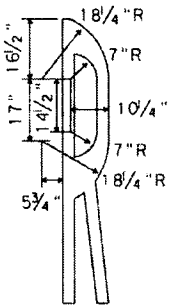
** d =

Approach Speed(mph)	Desirable Placement (feet)
20	190
25	290
30	415
35	515
40	615
45	715
50	815
55	915
60	1065
65	1165
70	1215

** Local conditions may require alternate placement locations.







To be placed as shown in typical details when pavement markings are installed.

Where Pavement markings are not installed:
Placement of the Highway-Rail Grade Crossing Advance Warning sign shall be in accordance with Chapter 2A and Table 2C-4 Condition (B) of the TMUTCD. (see note#2)

ESTIMATED QUANTITIES

(for Contractor Information ONLY)

24 INCH WHITE TRANSVERSE MARKINGS AND STOP LINES

		LANE WIDTH (FT)			
		11	12	13	14
No. of Approach Lanes (Include TWLTL)	1	33	36	39	42
	2	66	72	78	84
	3	99	108	117	126
	4	132	144	156	168

4 INCH SOLID YELLOW NO PASSING LINE = "d" - "c" + 70

For: Two Lane, Two-Way, Single Lane Approach per Direction

8 INCH SOLID WHITE LANE LINE = "d" - "a" + 70

For: Two-Way or One-Way Traffic, 2 or More Approach Lanes in Same Direction (Do NOT Include TWLTL)

GENERAL NOTES

1. The pavement markings on an approach to a railroad grade crossing shall consist of:
   a. The RR Xing symbol,
   b. Three transverse 24" lines, and
   c. Lane lines: a solid no passing line for two-way traffic approaches, or solid lane lines for multilane approaches.
2. Identical markings shall be placed in each approach lane on all paved approaches to highway-rail grade crossings where signals or automatic gates are located, and at all other highway-rail grade crossings where the posted or statutory highway speed is 40 mph or greater. Pavement markings shall not be required at highway-rail grade crossings where the posted or statutory highway speed is less than 40 mph, or in urban areas, if an engineering study indicates that other installed devices provide suitable warning and control.
3. For bidding purposes, the RR Xing symbol will be measured and paid for as for each lane in place. The transverse markings and lane lines will be measured and paid for by the lineal foot.
4. Centerlines shall be yellow, other markings shall be white.
5. Approach lanes less than 8 foot width shall NOT have markings.
6. Markings should NOT be placed where less than 110 feet of approach roadway is available for placement.
7. RR Xing symbols should be placed approximately in the center of the approach lane.
8. All transverse markings, including stop lines, shall be placed at right angles to the centerline and across all approach lanes.
9. Existing non-standard markings shall be removed to the fullest extent possible so as not to leave a discernable marking, by any method approved by the engineer. OVERPAINTING WILL NOT BE ALLOWED.
10. Additional markings and placement details may be found in the TMUTCD, Appendix H.
11. The Engineer may require additional longitudinal markings if the distance between the stop lines is greater than 80 feet. Markings are not required across or between the rails unless specified elsewhere in the plans.

* R15-1 Assembly

May consist of one or more of the following:

R15-1 Crossbuck Sign
R15-2 Multiple Track Sign
R15-4 Report Sign
Most Flashers
Cantilevers
Gates

Texas Department of Transportation
Traffic Operations Division

RAILROAD CROSSING PAVEMENT MARKING TYPICAL DETAILS

RCPM-09

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REVISIONS	CONT	SECT	JOB	HIGHWAY
4-92	0902	70	113	CR 3250
8-95	DIST		COUNTY	SHEET NO.
2-96	2		WISE	7
8-09				

DATE:
FILE: