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3	TABLE OF CONTENTS - SHEET 2	42A	CD-602-5A REPLACE INLET CURB PIECE TYPE B OR D IN EXISTING CONCRETE BARRIER CURB	76	CD-609-15 BEAM GUIDE RAIL ATTACHMENTS
				76A	CD-609-15A BEAM GUIDE RAIL ATTACHMENTS
	ROADWAY CONSTRUCTION DETAILS	42B	CD-602-5B REPLACE INLET CURB PIECE TYPE B OR D IN EXISTING CONCRETE BARRIER CURB IN NEW CONCRETE SECTION	76B	CD-609-15B BEAM GUIDE RAIL ATTACHMENTS
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11	CD-158-3 SOIL EROSION AND SEDIMENT CONTROL MEASURES	49	CD-603-1 SLOPE, OUTFALL, AND CHANNEL PROTECTION	78E	CD-609-17E BEAM GUIDE RAIL ATTACHMENTS
12	CD-158-4 SOIL EROSION AND SEDIMENT CONTROL MEASURES	50	CD-605-1 CHAIN-LINK FENCE	79	CD-609-18 MODIFIED THRIE BEAM GUIDE RAIL (MASH TL-3)
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14	CD-159-2 TRAFFIC CONTROL DEVICES	52	CD-606-1 CONCRETE SIDEWALK (PUBLIC SIDEWALK CURB RAMP)	80A	CD-609-20 MODIFIED THRIE BEAM GUIDE RAIL TRANSITION AND ELEMENT SECTIONS
15	CD-159-3 CONSTRUCTION BARRIER CURB (MASH TL-3)	53	CD-606-2 DETECTABLE WARNING SURFACE		
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24	CD-203-1 I-9 SOIL AGGREGATE AND EMBANKMENT	60B	CD-607-5 BARRIER CURB	87B	CD-610-9 TRAFFIC STRIPES AND MARKINGS
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27	CD-405-1 CONCRETE PAVEMENT TRANSVERSE JOINTS	62	CD-609-1 BEAM GUIDE RAIL	87E	CD-610-12 TRAFFIC MARKING SYMBOLS
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29	CD-405-3 CONCRETE PAVEMENT JOINTS NON-SKEWED LOAD TRANSFER ASSEMBLIES	64	CD-609-3 RUB RAIL	87G	CD-610-14 TRAFFIC MARKING ROUTE SYMBOLS
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39A	CD-602-2A DRIVEWAY ACCESS PLATE FOR INLET TYPE B AND TYPE C CASTING	72	CD-609-11 BEAM GUIDE RAIL ATTACHMENTS	98	CD-612-10 BREAKAWAY SIGN SUPPORTS FOR GROUND MOUNTED SIGNS
40	CD-602-3 INLETS, TYPE B1, B2, & B, B1, & B2 MODIFIED	73	CD-609-12 BEAM GUIDE RAIL ATTACHMENTS		

ABBREVIATIONS
 CD = ROADWAY
 TCD = TRAFFIC CONTROL DETAILS
 BCD = BRIDGE CONSTRUCTION DETAILS

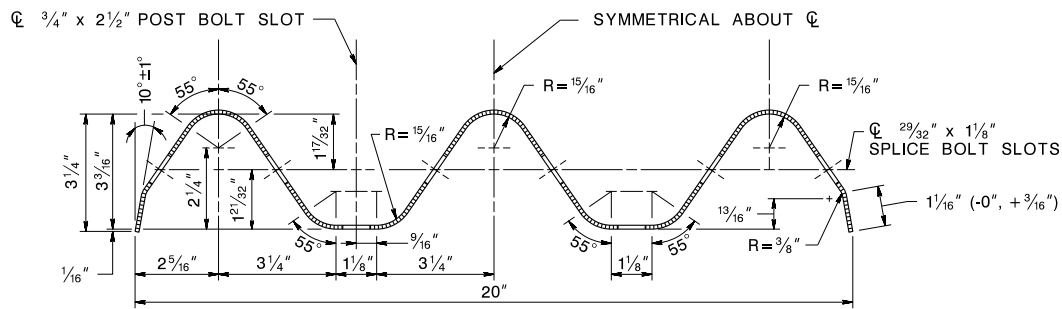
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 BDC22D-02 - NEW SHEET CD-602-4A
 BDC22D-01 - NEW SHEETS CD-602-5A THRU 5B
 BDC21D-07-NEW SHEETS CD-610-8 THRU 14
 BDC21D-06-REVISED CD-159-3, CD-159-4, CD-159-5
 BDC18D-07-REVISED
 BDC18D-06-ADDED SHEET CD-602-2A
 BDC17D-10-REVISED
 BDC17D-09-REVISED
 BDC16D-04-ORIGINAL SHEET

INDEX FOR STANDARD ROADWAY CONSTRUCTION DETAILS

INDEX SHEET 1

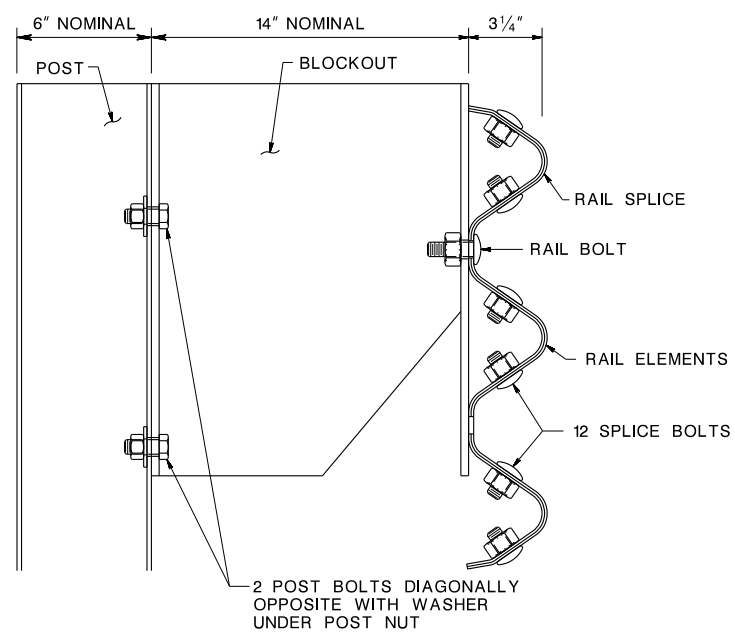
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BEAM GUIDE RAIL (BGR)		BEAM GUIDE RAIL ATTACHMENTS		INTERSTATE CONSTRUCTION IDENTIFICATION SIGN	CD-159-8
BEAM GUIDE RAIL	CD-609-1.1	BEAM GUIDE RAIL ATTACHMENT TO SIDEWALK	CD-609-11.1	CONSTRUCTION IDENTIFICATION SIGN	CD-159-9
BEAM GUIDE RAIL, DUAL FACED (MASH TL-3)	CD-609-2.1	BEAM GUIDE RAIL ATTACHMENT TO EXISTING BALUSTRADE	CD-609-12.1		
RUB RAIL	CD-609-3.1	BEAM GUIDE RAIL ATTACHMENTS	CD-609-13.1	CRASH CUSHIONS	
MODIFIED THRIE BEAM GUIDE RAIL (MASH TL-3)	CD-609-18.1	GUIDE RAIL ATTACHMENT - NEW CONSTRUCTION - MASH TL-3 F SHAPE BARRIER PARAPET (NO ROADWAY CURBING ON APPROACH)	CD-609-14.1	TEMPORARY CRASH CUSHIONS COMPRESSIVE BARRIER SUMMARY TABLE	CD-159-10.1
MODIFIED THRIE BEAM GUIDE RAIL, DUAL FACED (MASH TL-3)	CD-609-19.1			CRASH CUSHIONS COMPRESSIVE BARRIER SUMMARY TABLE	CD-611-11.1
MODIFIED THRIE BEAM GUIDE RAIL TRANSITION AND ELEMENT SECTIONS	CD-609-20.1	GUIDE RAIL ATTACHMENT - NEW CONSTRUCTION - MASH TL-3 F SHAPE BARRIER PARAPET (WITH ROADWAY CURBING ON APPROACH)	CD-609-15.1		
		GUIDE RAIL ATTACHMENT - NEW CONSTRUCTION - MASH TL-2 F SHAPE BARRIER PARAPET (NO ROADWAY CURBING ON APPROACH)	CD-609-15A.1	CULVERTS	
BEAM GUIDE RAIL TREATMENTS		GUIDE RAIL ATTACHMENT - NEW CONSTRUCTION - MASH TL-2 F SHAPE BARRIER PARAPET (WITH ROADWAY CURBING ON APPROACH)	CD-609-15B.1	CONCRETE CULVERT	CD-602-11.1
MEDIAN GUIDE RAIL TREATMENTS	CD-609-7			CONSTRUCTION JOINT OF CULVERT	CD-602-11.2
TELESCOPING GUIDE RAIL END TERMINAL	CD-609-7.1	GUIDE RAIL ATTACHMENT - NEW CONSTRUCTION - MASH TL-3 SIDEWALK WITH ONE RAIL STEEL BRIDGE RAILING PARAPET	CD-609-16.1	CURBS	
DUAL FACED MEDIAN GUIDE RAIL AND TANGENT GUIDE RAIL TERMINAL	CD-609-7.2			CONCRETE AND GRANITE CURB	CD-607-1
MEDIAN GUIDE RAIL TREATMENTS	CD-609-7A	GUIDE RAIL ATTACHMENT - NEW CONSTRUCTION - MASH TL-2 SIDEWALK WITH ONE RAIL STEEL BRIDGE RAILING PARAPET	CD-609-16A.1	GENERAL NOTES APPLYING TO ALL TYPES OF DOWELLED CURBS	CD-607-1.1
TELESCOPING GUIDE RAIL END TERMINAL CONNECTION TO DUAL FACED MODIFIED THRIE BEAM GUIDE RAIL	CD-609-7A.1			9" x ___" CONCRETE VERTICAL CURB, DOWELLED	CD-607-1.2
MEDIAN GUIDE RAIL TREATMENT AT ADJACENT BRIDGES	CD-609-7A.2	GUIDE RAIL ATTACHMENT - NEW CONSTRUCTION - MASH TL-3 SIDEWALK WITH 4 BAR OPEN STEEL BRIDGE RAILING PARAPET	CD-609-17.1	12" x 3" CONCRETE SLOPING CURB, DOWELLED	CD-607-1.3
OVERLAPPING DUAL FACED MEDIAN BEAM GUIDE RAIL	CD-609-7B.1			CONCRETE VERTICAL CURB MONOLITHIC WITH CONCRETE BASE COURSE	CD-607-1.4
BEAM GUIDE RAIL TREATMENTS	CD-609-8	GUIDE RAIL ATTACHMENT - NEW CONSTRUCTION - MASH TL-2 SIDEWALK WITH 4 BAR OPEN STEEL BRIDGE RAILING PARAPET	CD-609-17A.1	12" x 13" CONCRETE SLOPING CURB	CD-607-1.5
CLEARANCE FROM FACE OF RAIL TO OBSTRUCTION	CD-609-8.1			CONCRETE VERTICAL CURB	CD-607-1.6
ADDITIONAL LENGTH BEAM GUIDE RAIL POSTS	CD-609-8.2	GUIDE RAIL ATTACHMENT - MASH TL-3 - EXISTING NJ BARRIER PARAPET (NO ROADWAY CURBING ON APPROACH)	CD-609-17B.1	CONCRETE VERTICAL CURB MONOLITHIC WITH CONCRETE PAVEMENT	CD-607-1.7
GUIDE RAIL POST INSTALLATION IN ROCK	CD-609-8.3			NEW OR RESET GRANITE CURB	CD-607-1.8
VERTICAL TRANSITION TO EXISTING 27¼" HIGH GUIDE RAIL	CD-609-8.4	GUIDE RAIL ATTACHMENT - MASH TL-2 - EXISTING NJ BARRIER PARAPET (NO ROADWAY CURBING ON APPROACH)	CD-609-17D.1	LIP CURB FOR BEAM GUIDE RAIL ATTACHMENTS	CD-607-1.9
BEAM GUIDE RAIL TREATMENTS	CD-609-8A			CURB TRANSITIONS	CD-607-2
18'-9" OR 25'-0" UNSUPPORTED SPAN	CD-609-8A.1	GUIDE RAIL ATTACHMENT - MASH TL-2 - EXISTING NJ BARRIER PARAPET (WITH ROADWAY CURBING ON APPROACH)	CD-609-17C.1	METHOD OF TRANSITIONING TO 2" VERTICAL CURB AT A TANGENT GUIDE RAIL TERMINAL	CD-607-2.1
12'-6" UNSUPPORTED SPAN	CD-609-8A.2			CURB TREATMENT AT BERM SECTION AND ALL CURB ENDS	CD-607-2.2
RAIL HEIGHT DETERMINATION	CD-609-8A.3	GUIDE RAIL ATTACHMENT - MASH TL-2 - EXISTING NJ BARRIER PARAPET (WITH ROADWAY CURBING ON APPROACH)	CD-609-17E.1	APPROACH CURBED GORE AREA TREATMENT	CD-607-2.3
				METHOD OF DEPRESSING CURB AT DRIVEWAYS	CD-607-2.4
				LINEAR CURB TRANSITION	CD-607-2.5
				METHOD OF TRANSITIONING TO 2" VERTICAL CURB AT A BEAM GUIDE RAIL ANCHORAGE	CD-607-2.6
BEAM GUIDE RAIL TERMINALS		CONCRETE PAVEMENT REHABILITATION		BARRIER CURB	CD-607-3
BEAM GUIDE RAIL ANCHORAGE (MASH TL-3)	CD-609-4.1	SLAB STABILIZATION	CD-451-1.1	24" x ___" CONCRETE BARRIER CURB, DOWELLED	CD-607-3.1
TANGENT GUIDE RAIL TERMINAL (MASH TL-3)	CD-609-5.1	PARTIAL DEPTH CONCRETE PAVEMENT REPAIR	CD-452-1.1	24" x 41" CONCRETE BARRIER CURB	CD-607-3.2
CONTROLLED RELEASE TERMINAL	CD-609-6	FULL DEPTH CONCRETE PAVEMENT REPAIR	CD-453-1.1	MASH TL-3 NJ BARRIER CURB	CD-607-3.3
CONTROLLED RELEASE TERMINAL	CD-609-6.1	FULL DEPTH CONCRETE PAVEMENT REPAIR	CD-453-2	MASH TL-5 F SHAPE BARRIER CURB	CD-607-4.1
CONTROLLED RELEASE TERMINAL ANCHORAGE	CD-609-6.2	REINFORCEMENT STEEL FOR FULL DEPTH CONCRETE PAVEMENT REPAIR, CLASS ___	CD-453-2.1	BARRIER CURB	CD-607-5
GENERAL NOTES	CD-609-6.3	FULL DEPTH CONCRETE PAVEMENT REPAIR, HMA	CD-453-2.2	24½" x ___" F SHAPE CONCRETE BARRIER CURB, DOWELLED	CD-607-5.1
BURIED GUIDE RAIL TERMINAL	CD-609-9.1	RETROFIT DOWEL BARS	CD-454-1	24½" x 51" F SHAPE CONCRETE BARRIER CURB	CD-607-5.2
GRADING AND ROADSIDE RECOVERY AREA AT TANGENT GUIDE RAIL TERMINALS	CD-609-10	RETROFIT DOWEL BARS AT EXISTING JOINT	CD-454-1.1	OPENINGS TO BE CONSTRUCTED IN F SHAPE BARRIER CURB	CD-607-5.3
GRADING TREATMENT AT TANGENT GUIDE RAIL TERMINALS	CD-609-10.1	RETROFIT DOWEL BARS AT PAVEMENT CRACK	CD-454-1.2	BARRIER CURB	CD-607-6
RECOVERY AREA AT TANGENT GUIDE RAIL TERMINALS	CD-609-10.2			BARRIER CURB TAPERED END	CD-607-6.1
		CONSTRUCTION SIGNS		MASH TL-3 NJ BARRIER CURB	CD-607-6.2
		CONSTRUCTION SIGNS	CD-159-6.1		
		CONSTRUCTION SIGNS	CD-159-7.1		

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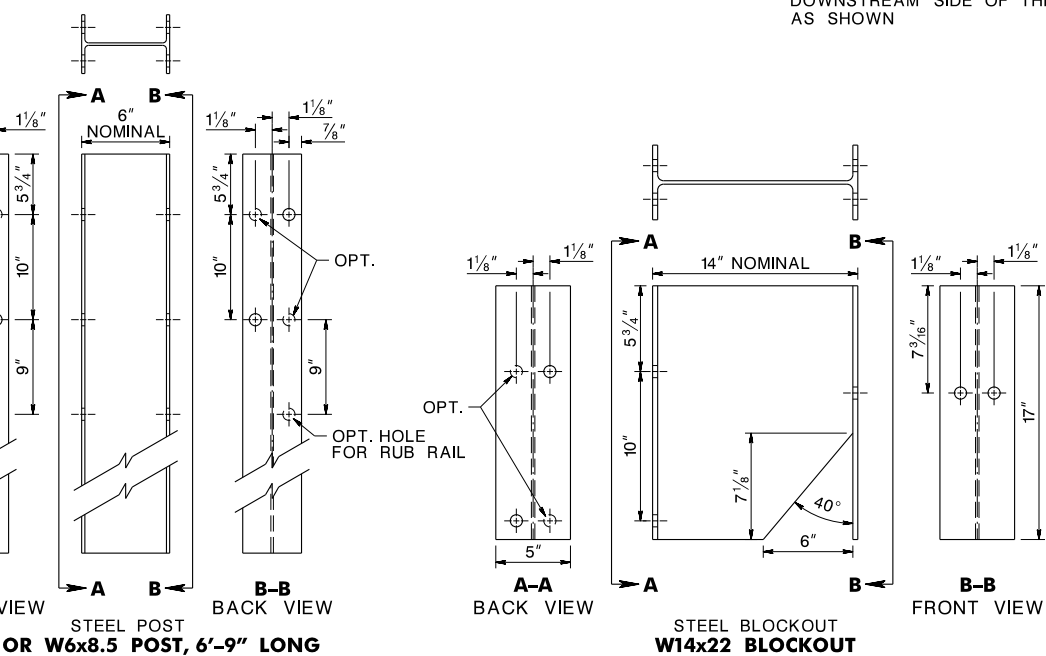


RAIL ELEMENT TO BE SUPPLIED IN LENGTHS OF 13'-6 1/2" OR 26'-0 1/2"

THRIE BEAM RAIL ELEMENT AND BACK-UP PLATE

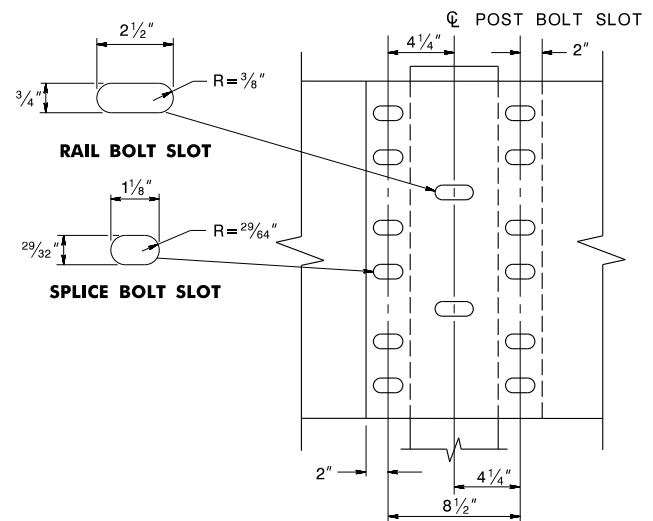


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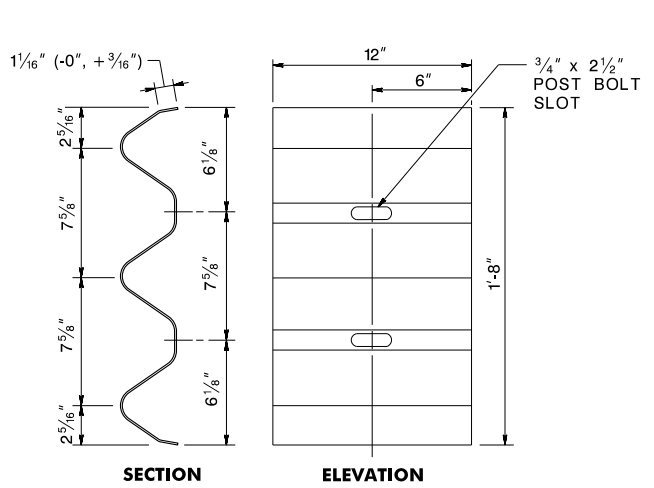


MODIFIED THRIE BEAM POST AND BLOCKOUT

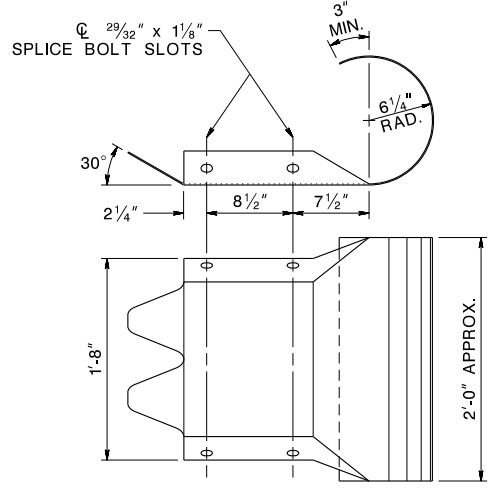
ALL HOLES 13/16" DIA.



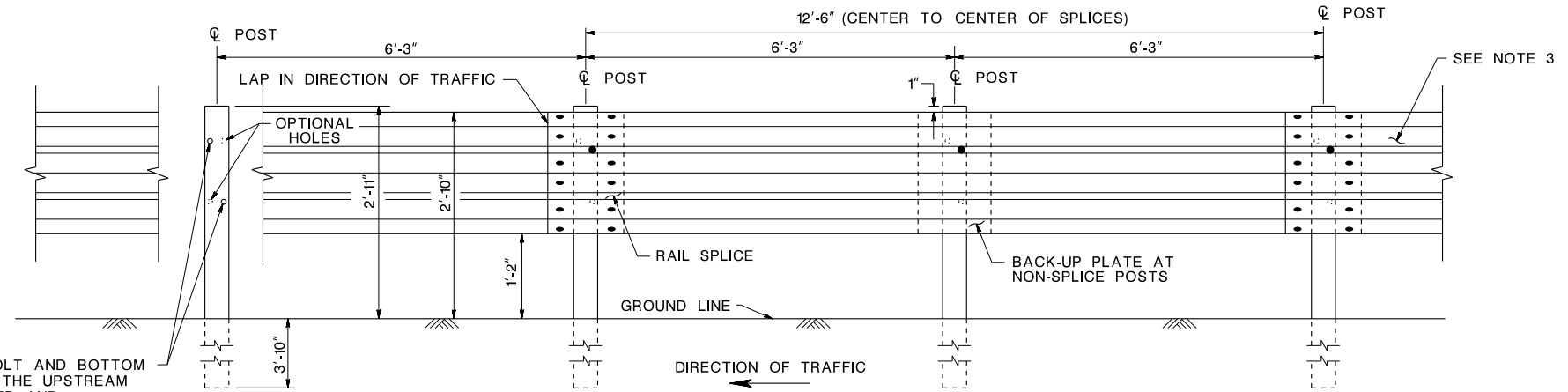
THRIE BEAM RAIL SPLICE



BACK-UP PLATE AT NON-SPLICE POSTS



THRIE BEAM END SECTION (ROUNDED)

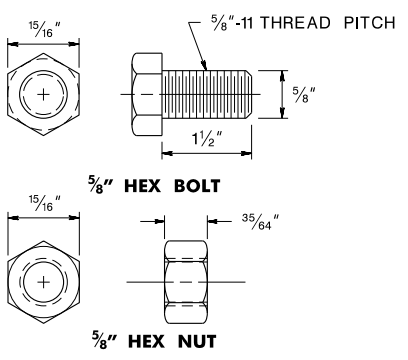


MODIFIED THRIE BEAM GUIDE RAIL

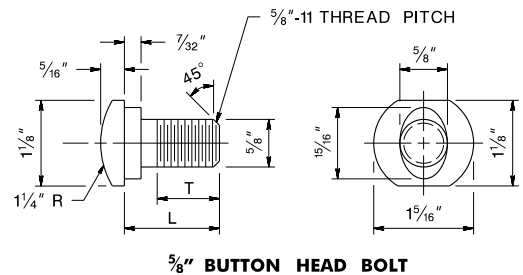
LOCATE RAIL BOLT AND BOTTOM POST BOLT ON THE UPSTREAM SIDE OF THE WEB AND TOP POST BOLT ON THE DOWNSTREAM SIDE OF THE WEB, AS SHOWN

NOTES:

1. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
2. RAIL ELEMENTS TO BE FURNISHED SHOPCURVED, CONCAVE OR CONVEX, FOR RADII BETWEEN 20 FEET AND 150 FEET.
3. SEE CD-609-20 FOR TRANSITION TO BEAM GUIDE RAIL AND AN END TERMINAL. USE A THRIE BEAM END SECTION (ROUNDED) ON THE END OF THE RAIL ELEMENT WHERE MODIFIED THRIE BEAM GUIDE RAIL, DUAL FACED, ENDS AND MODIFIED THRIE BEAM GUIDE RAIL, SINGLE FACED, BEGINS.

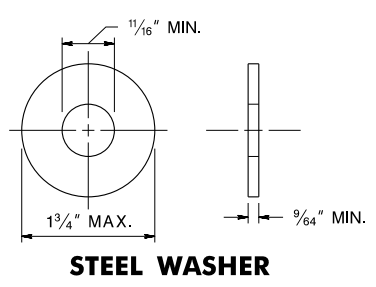


POST NUT & BOLT

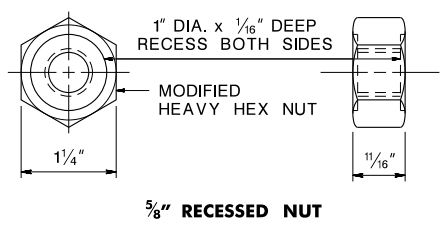


5/8" BUTTON HEAD BOLT

TYPE	L	T (MIN.)
SPLICE	1 1/4"	FULL LENGTH THREAD
RAIL	2"	FULL LENGTH THREAD



STEEL WASHER



SPLICE & RAIL NUT & BOLT

MODIFIED THRIE BEAM GUIDE RAIL (MASH TL-3)

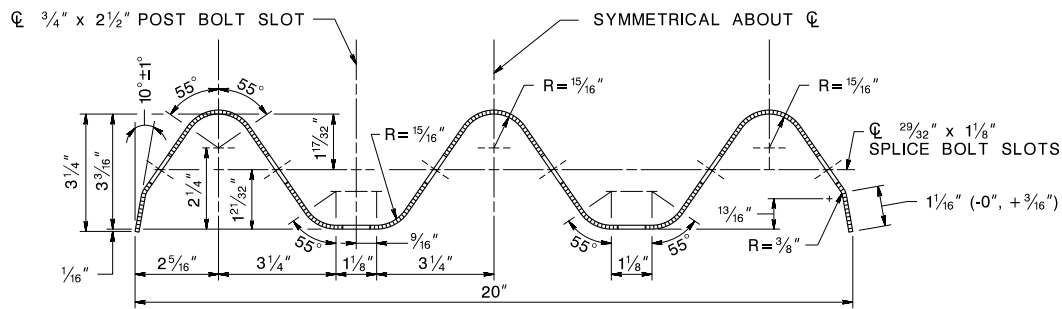
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CD-609-18

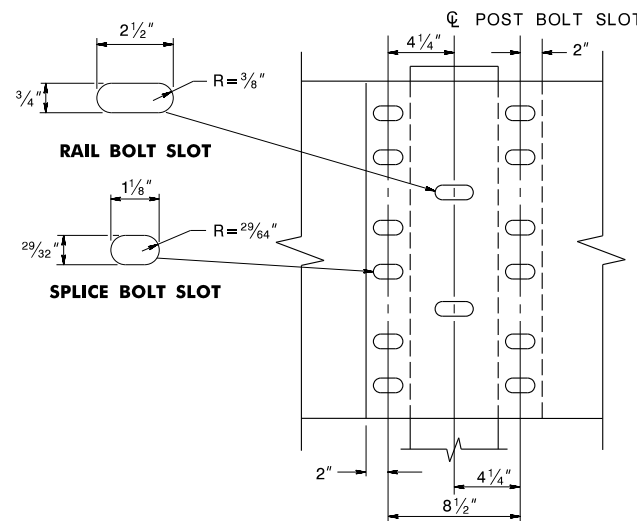
NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

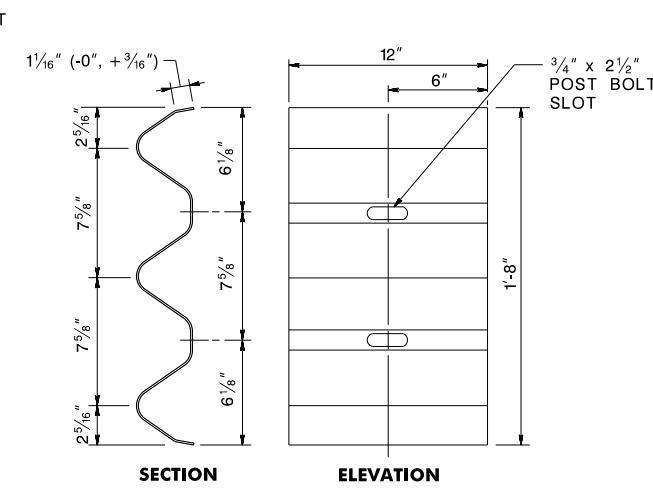
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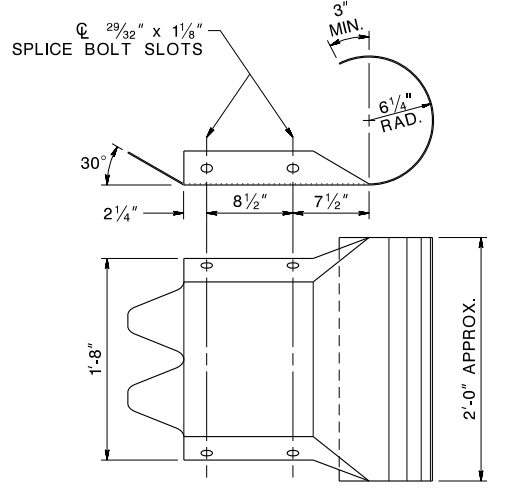
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THRIE BEAM RAIL ELEMENT AND BACK-UP PLATE



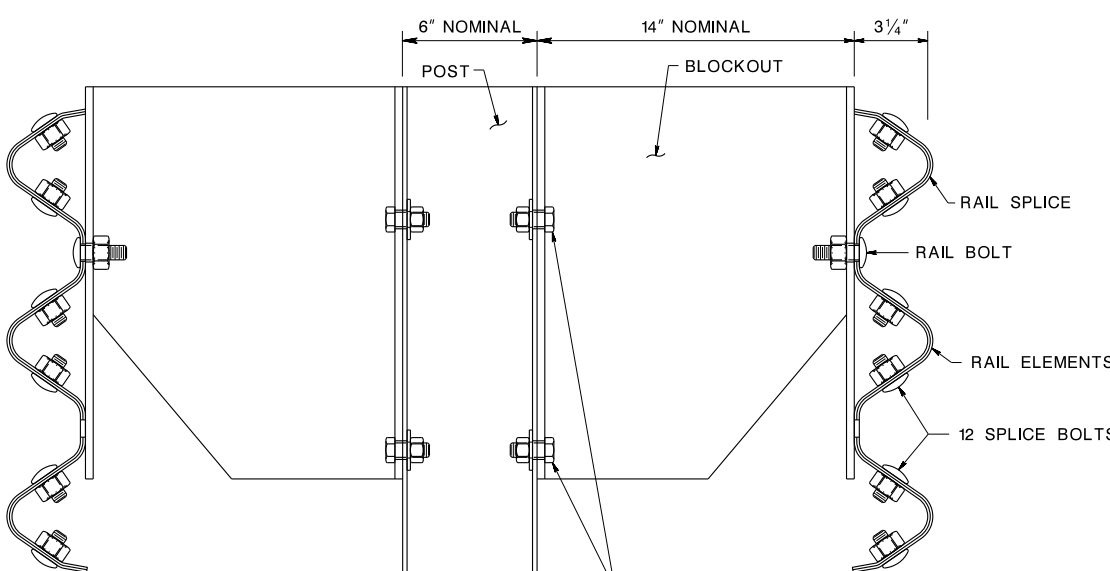
THRIE BEAM RAIL SPLICE



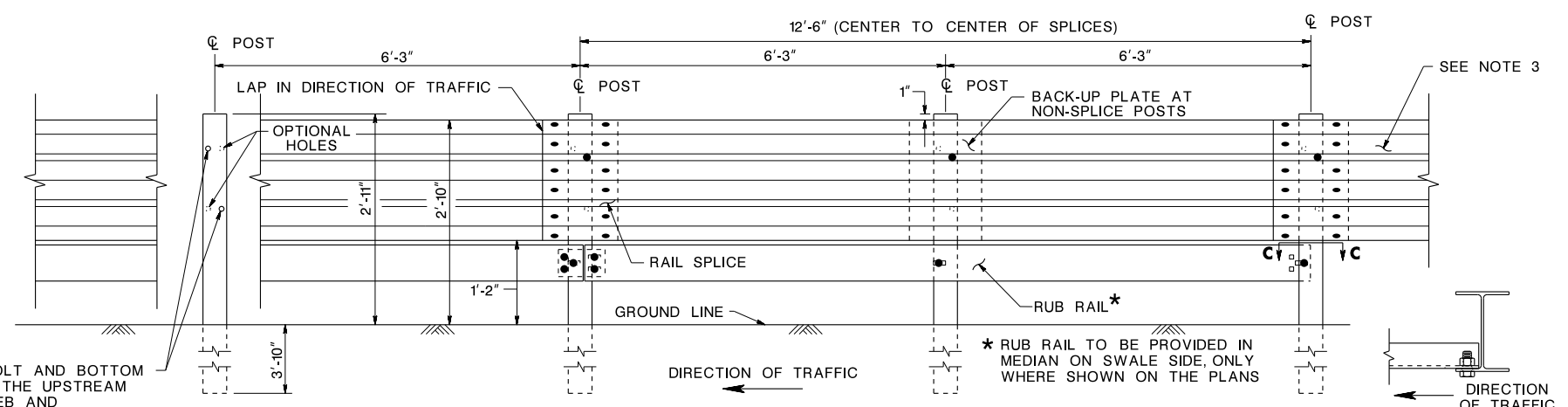
BACK-UP PLATE AT NON-SPLICE POSTS



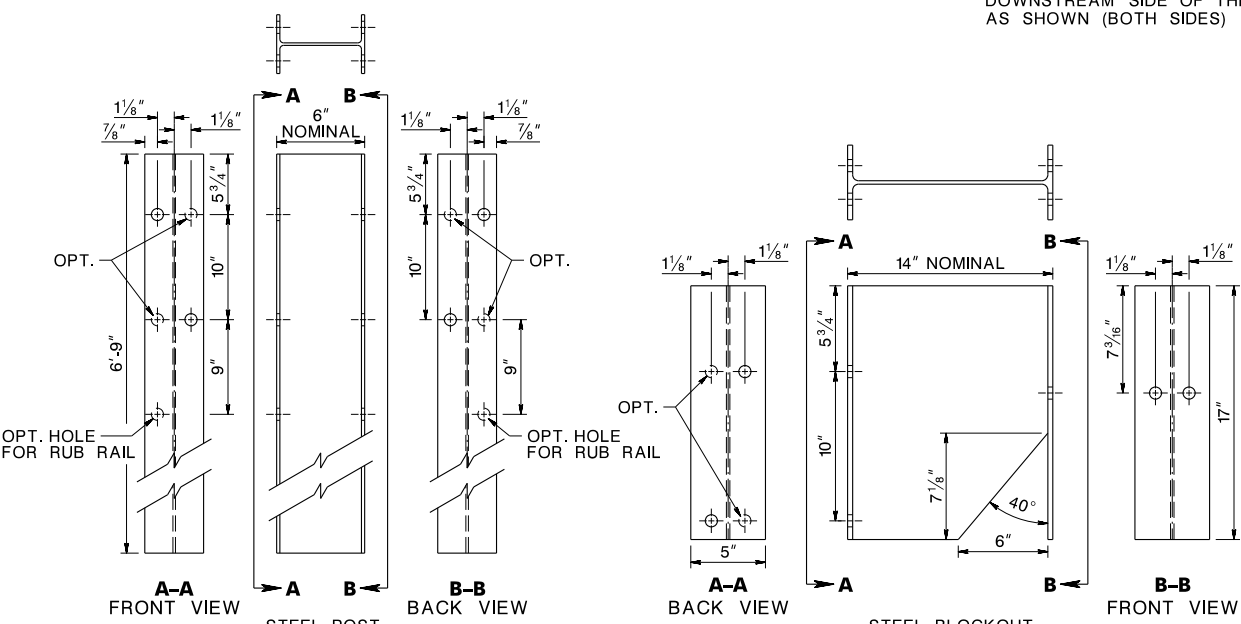
THRIE BEAM END SECTION (ROUNDED)



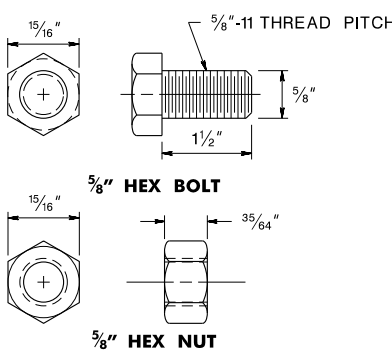
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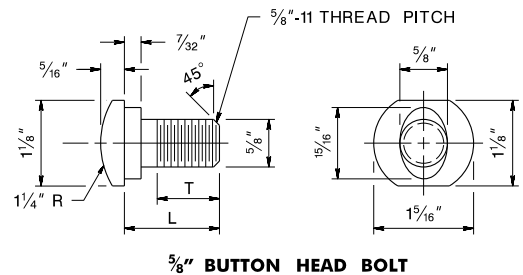
MODIFIED THRIE BEAM GUIDE RAIL, DUAL FACED



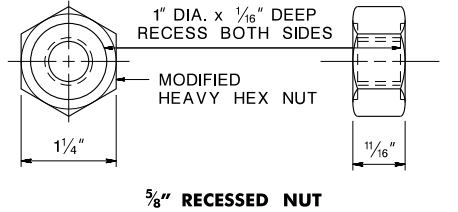
MODIFIED THRIE BEAM POST AND BLOCKOUT



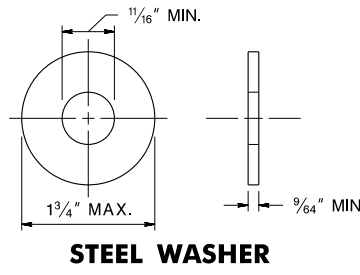
POST NUT & BOLT



TYPE	L	T (MIN.)
SPLICE	1 1/4"	FULL LENGTH THREAD
RAIL	2"	FULL LENGTH THREAD



SPLICE & RAIL NUT & BOLT



STEEL WASHER

- NOTES:**
- ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
 - RAIL ELEMENTS TO BE FURNISHED SHOPCURVED, CONCAVE OR CONVEX, FOR RADII BETWEEN 20 FEET AND 150 FEET.
 - SEE CD-609-7A FOR TRANSITION TO BEAM GUIDE RAIL, DUAL FACED, AND AN END TERMINAL. USE A THRIE BEAM END SECTION (ROUNDED) ON THE END OF THE RAIL ELEMENT WHERE MODIFIED THRIE BEAM GUIDE RAIL, DUAL FACED, ENDS AND MODIFIED THRIE BEAM GUIDE RAIL, SINGLE FACED, BEGINS.

MODIFIED THRIE BEAM GUIDE RAIL, DUAL FACED (MASH TL-3)

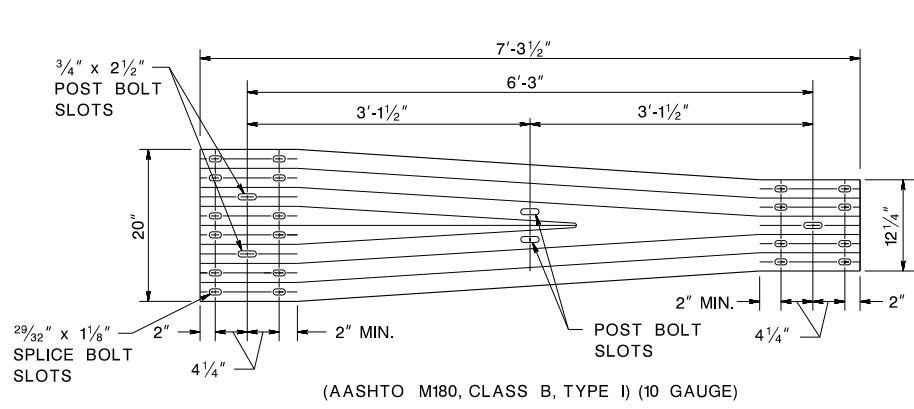
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CD-609-19

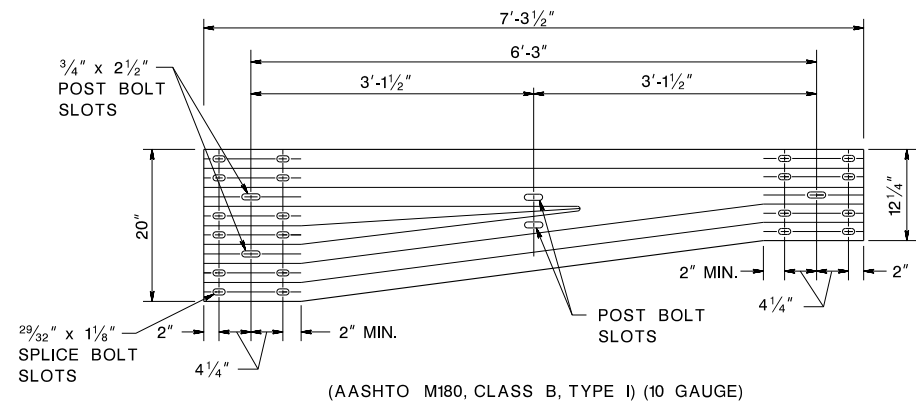
NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

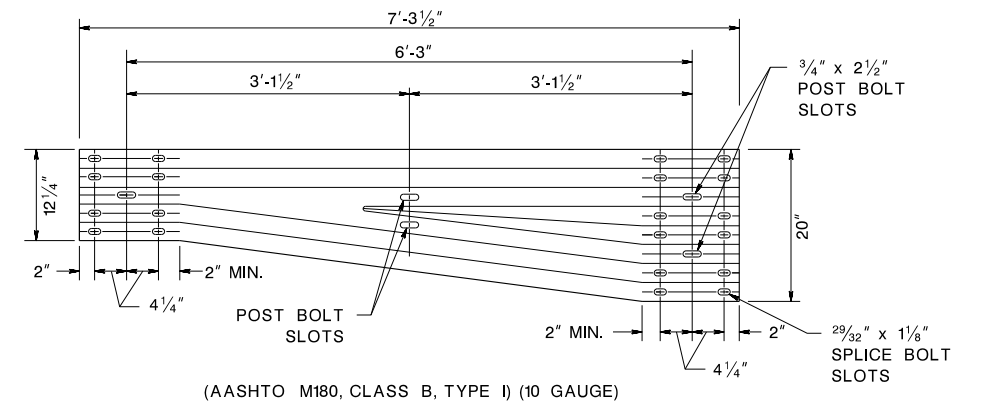
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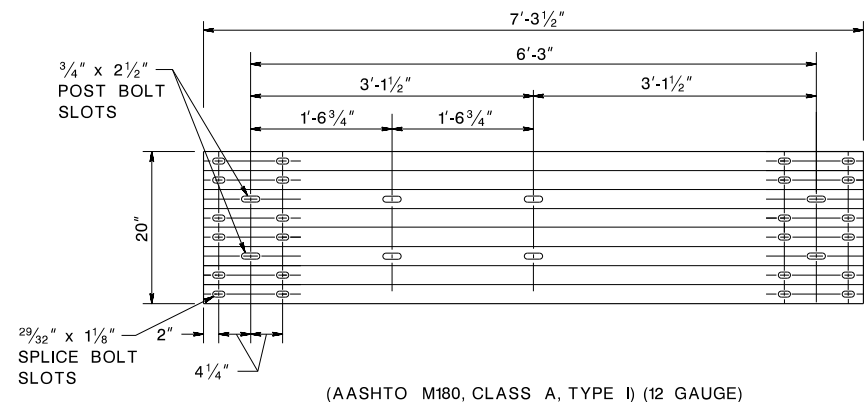
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THREE BEAM TO W-BEAM SYMMETRICAL TRANSITION SECTION - SEE NOTE 1



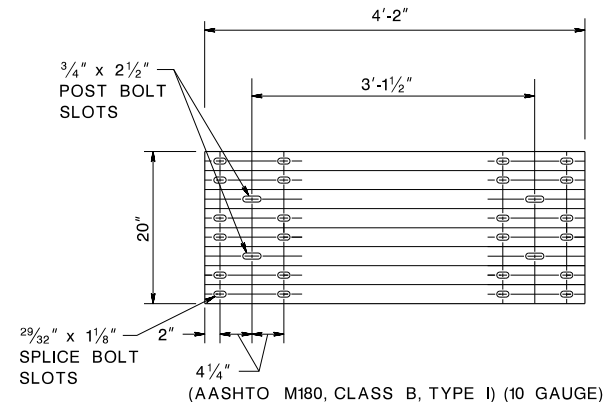
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THREE BEAM TO W-BEAM ASYMMETRICAL TRANSITION SECTION - RIGHT SIDE APPROACH - SEE NOTE 2



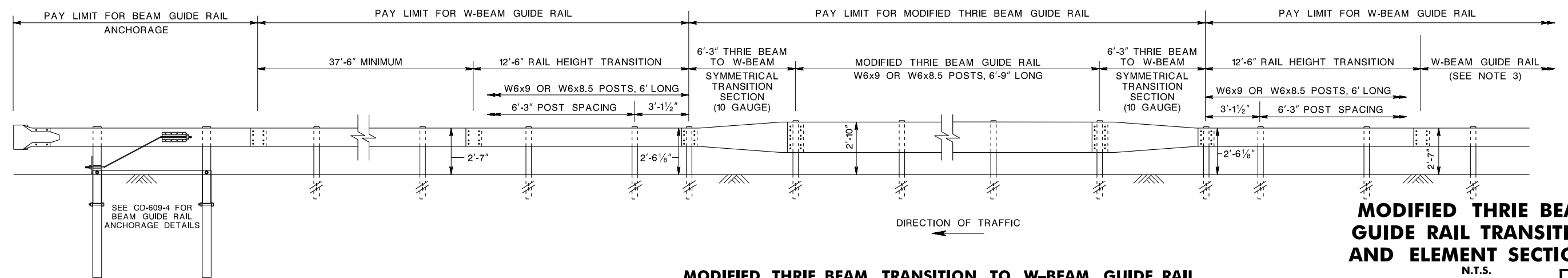
(AASHTO M180, CLASS B, TYPE I) (10 GAUGE)
THREE BEAM TO W-BEAM ASYMMETRICAL TRANSITION SECTION - LEFT SIDE APPROACH - SEE NOTE 2



(AASHTO M180, CLASS A, TYPE I) (12 GAUGE)
7'-3 1/2\"/>



(AASHTO M180, CLASS B, TYPE I) (10 GAUGE)
4'-2\"/>



MODIFIED THRIE BEAM TRANSITION TO W-BEAM GUIDE RAIL

MODIFIED THRIE BEAM GUIDE RAIL TRANSITION AND ELEMENT SECTIONS
 N.T.S.

- NOTES:**
1. A THRIE BEAM TO W-BEAM SYMMETRICAL TRANSITION SECTION IS USED WHERE A VERTICAL TRANSITION IS REQUIRED, SUCH AS A TRANSITION FROM MODIFIED THRIE BEAM TO W-BEAM GUIDE RAIL.
 2. A THRIE BEAM TO W-BEAM ASYMMETRICAL TRANSITION SECTION IS USED WHERE A VERTICAL TRANSITION IS NOT REQUIRED, SUCH AS A TRANSITION FROM THRIE BEAM AT A BRIDGE ATTACHMENT TO W-BEAM GUIDE RAIL.
 3. A MINIMUM 12'-6" LENGTH OF BEAM GUIDE RAIL IS REQUIRED BETWEEN THE 12'-6" RAIL HEIGHT TRANSITION AND A TANGENT GUIDE RAIL TERMINAL, A MINIMUM 25' LENGTH OF BEAM GUIDE RAIL IS REQUIRED BETWEEN THE 12'-6" RAIL HEIGHT TRANSITION AND A STRAIGHT FLARE OF BEAM GUIDE RAIL.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

CD-609-20

CD-609-20.1

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