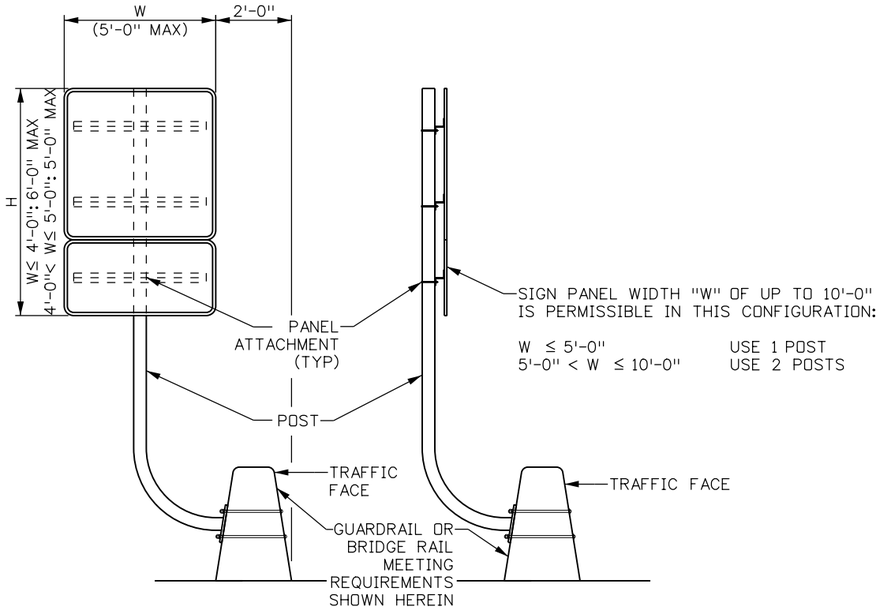
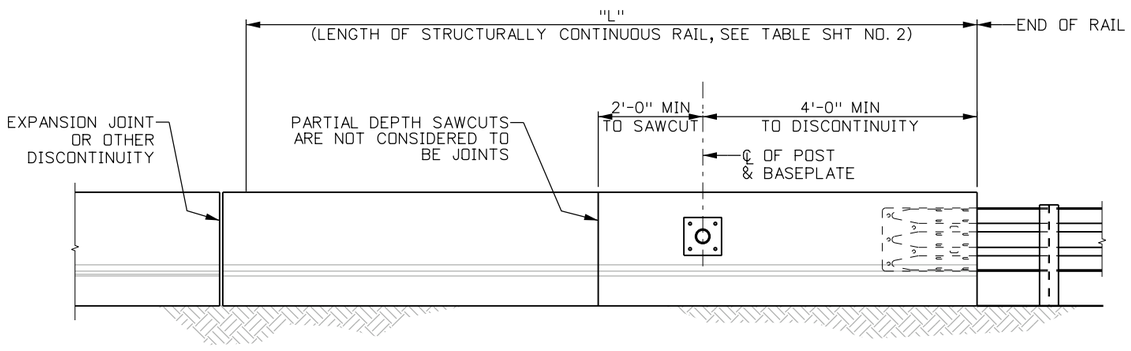


Perpendicular **Parallel**

Sign Panel Dimensions & Orientation



J-Post Placement Requirements

General Notes:

1. J-Post mount is specified for installation on Bridge Rail Type 7, Bridge Rail Type 9, Guardrail Type 7 styles CA and CC, and Guardrail Type 9 styles CA and CC.

2. J-Post materials shall conform to the following:

a. Round Hollow Steel Sections (HSS)	ASTM A500 Grade C
b. Baseplates	ASTM A709 Grade 50
c. Bolts	ASTM F3125 Grade A 325
d. Nuts	ASTM A563
e. Washers	ASTM F436

3. Bolts, u-clamps, nuts, and metal washers shall be galvanized.

4. Vent holes shall be provided prior to galvanization. Vent holes on horizontal segment of post shall be oriented down so as to drain water from the interior of the member when installed.

5. All signs shall be as required per CDOT M&S Standards Plans and Specifications and/or as shown on the plans.

6. Reference Standard S-614-3 for sign details, including sign panel and zee backing. Post shall be attached to zee members with u-bolts. Reference Standard S-614-8. Adjust u-bolt dimensions based on selected post diameter.

7. Guardrail parameters must be verified prior to installation.

8. Batter angle of guardrail or bridge rail shall be field verified prior to fabrication.

9. J-Post Mount is intended for back (Non-Traffic Face) of guardrail or bridge rail. Do not use on retaining wall facing, wall coping, or traffic-facing side of barrier.

10. J-Post mount is only applicable for use on permanent, cast-in-place guardrail, not temporary or precast barriers that are pinned together.

11. J-Post shall not be mounted on a segment of barrier where the guardrail was previously damaged and repaired.

12. Reference Standard S-614-14 for flashing beacon electrical requirements and details.

Design Data:

Specifications:

Design:	AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 1st Edition (2015) with 2020 Interims.
	AASHTO LRFD Bridge Design Specifications, 9th Edition (2020).
Wind Loading:	Per CDOT Bridge Design Manual Section 32.3: 120 Mph Outside Of Special Wind Region 165 Mph Inside Special Wind Region

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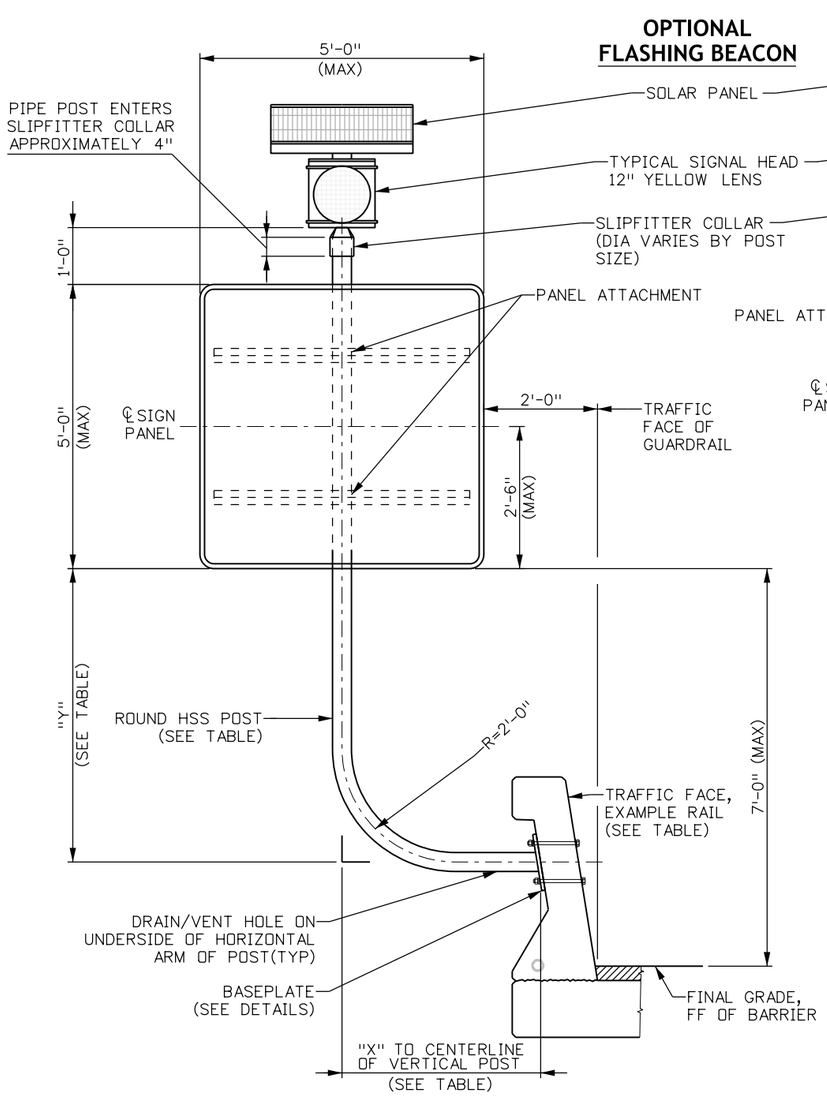
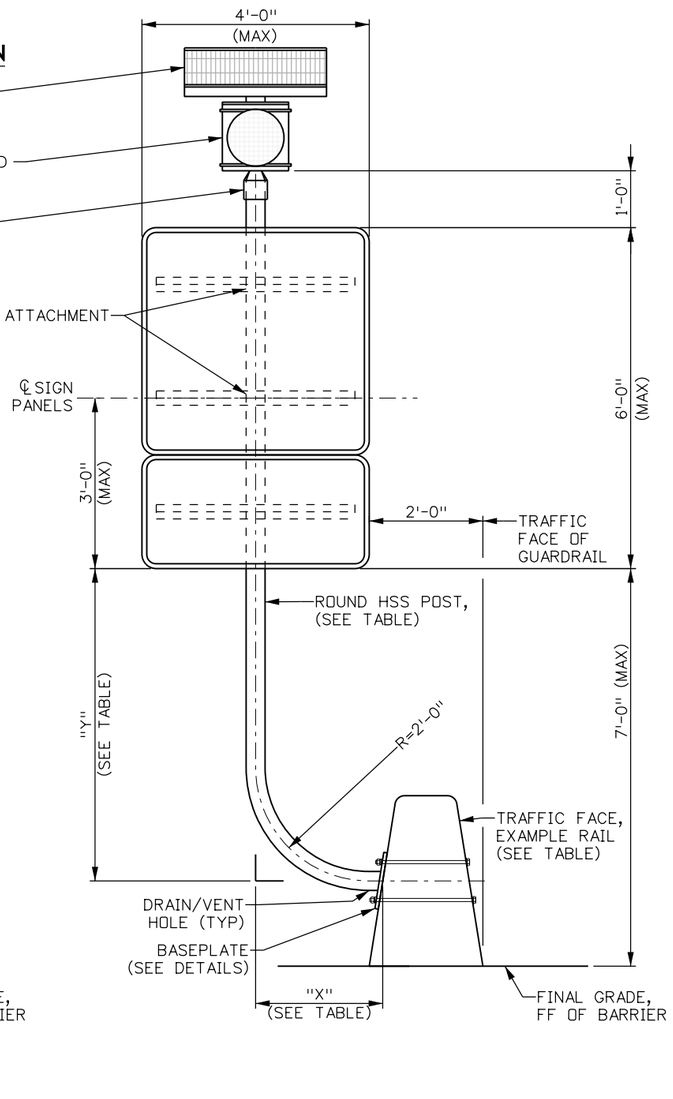
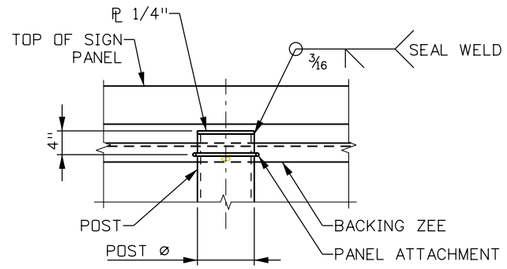


5' Wide Sign Typical Elevation



4' Wide Sign Typical Elevation



Post Cap Detail

(Required for all installations except where flashing beacon is installed)

POST SELECTION TABLE		
WIND REGION	DESIGN WIND SPEED	POST SELECTION
SPECIAL WIND REGION	165 MPH	HSS6.000x0.312
ALL OTHER LOCATIONS	120 MPH	HSS4.500x0.337

GUARDRAIL OFFSET AND APPLICABILITY TABLE				
		HORIZONTAL POST DIMENSION "X"		VERTICAL POST
BARRIER TYPE	REQUIRED CONTINUOUS LENGTH "L"	4'-0" WIDE SIGN	5'-0" WIDE SIGN	DIMENSION "Y"
BRIDGE RAIL TYPE 7	N/A (MOUNTED ON MOMENT SLAB)	2'-6"	3'-0"	5'-8"
BRIDGE RAIL TYPE 9	N/A (MOUNTED ON MOMENT SLAB)	3'-0"	3'-6"	5'-2"
GUARDRAIL TYPE 7	L ≥ 15'-0"	2'-7"	3'-1"	5'-6"
GUARDRAIL TYPE 9	L ≥10'-0"	2'-3"	2'-9"	5'-6"

Note:

1. Length of structurally continuous guardrail shall not be less than the dimension "L" as shown in the table. If a moment slab is required, the presence of the moment slab shall be field verified by a CDOT or other designated Structural Engineer prior to installation.
2. Required length "L" shall be increased by 3'-0" for double post installation.

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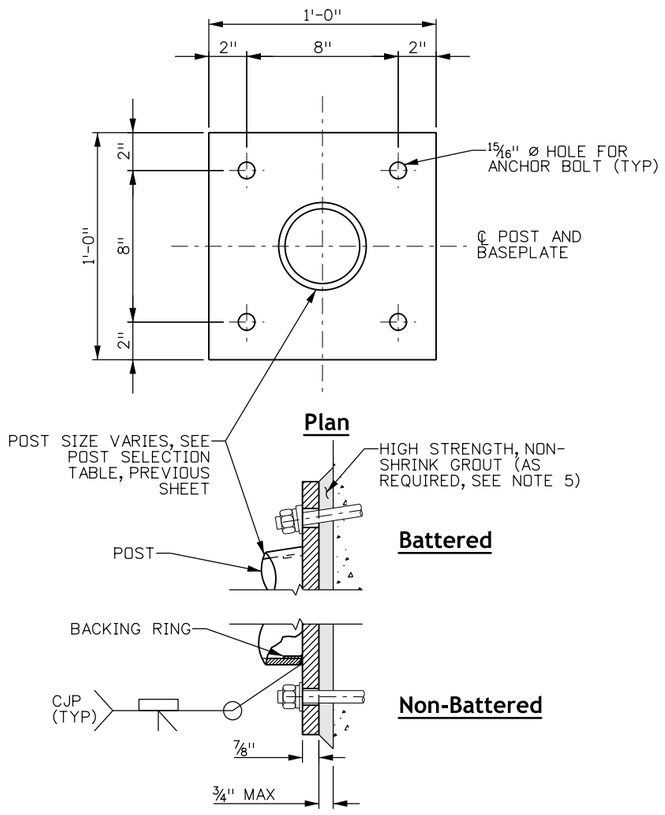
Baseplate Installation Notes:

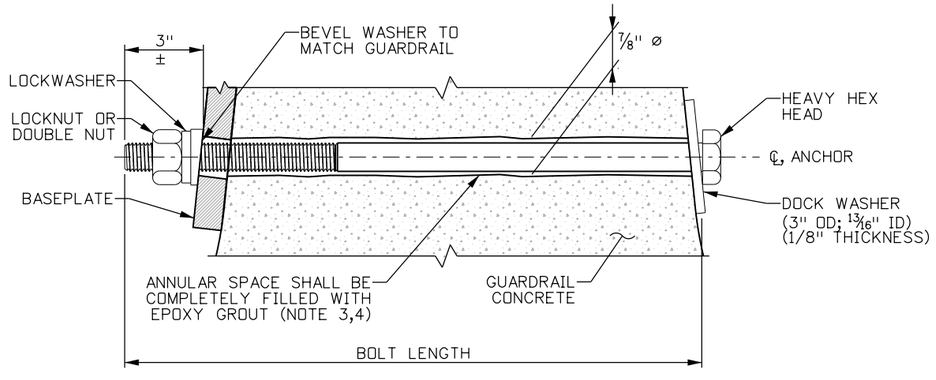
1. Prior to drilling, locate existing reinforcement and position the baseplate to avoid. In situations where reinforcement is encountered during drilling, the baseplate must be repositioned so that new bolt holes are at least 6" offset from unused hole. Holes that are not used shall be grouted with high strength grout.
2. Bolt holes shall be core-drilled using equipment capable of penetrating the entire barrier. Drill from back side of barrier to match baseplate holes. Drill holes should be parallel to the ground/horizontal. Following drilling, holes shall be cleaned with compressed air.
3. Epoxy grout shall completely fill the annular space. Grout shall be applied from both sides of the hole prior to inserting the bolts. Twist bolt while inserting.
4. Epoxy grout for bolts shall be high-strength and non-shrink. The minimum bond strength shall be 2,200 psi when tested in accordance with ASTM C882.
5. Confirm post is plumb prior to finalizing install. If post is out of plumb by more than 2%, use grout pad to correct the position. Grout pad shall be comprised of non-shrink, high-strength cementitious grout. The grout shall have a positive expansion of 0.0% to 0.3% when tested in accordance with ASTM C1090.
6. Nuts shall be tightened to a snug-tight condition following installation.
7. In situations where through-bolting is not feasible, the Contractor may submit alternate details for anchoring the J-Post for acceptance. The alternate anchor details shall be signed and sealed by a registered Professional Engineer in the State of Colorado. The anchor design shall consider the following loads:

Design Wind Speed:	120 mph
Factored Tension Per Bolt:	10.6 kips
Permanent Tension Per Bolt:	1.3 kips

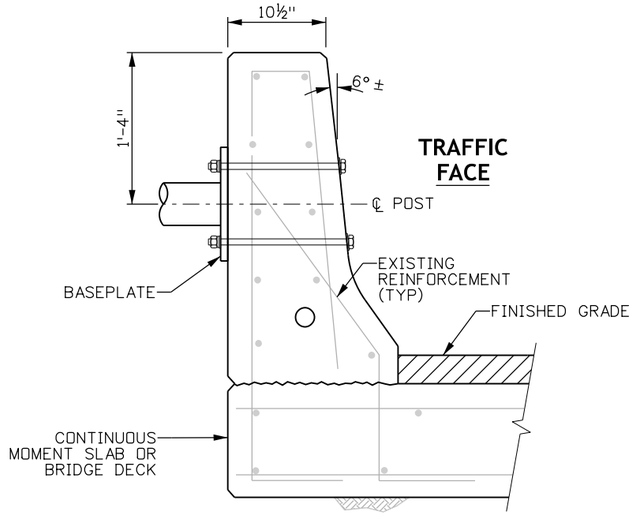
Design Wind Speed:	165 mph
Factored Tension Per Bolt:	18.8 kips
Permanent Tension Per Bolt:	1.5 kips



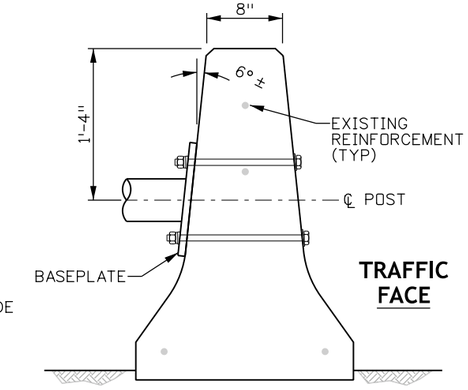
Typical Baseplate Details



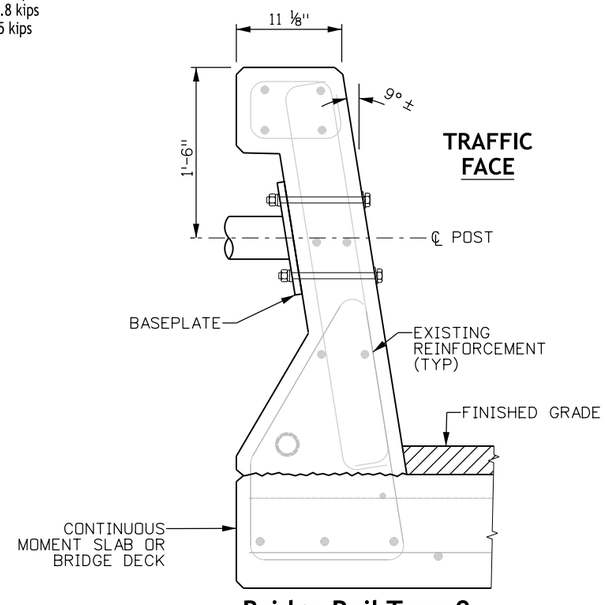
Thru Bolt Anchor Detail



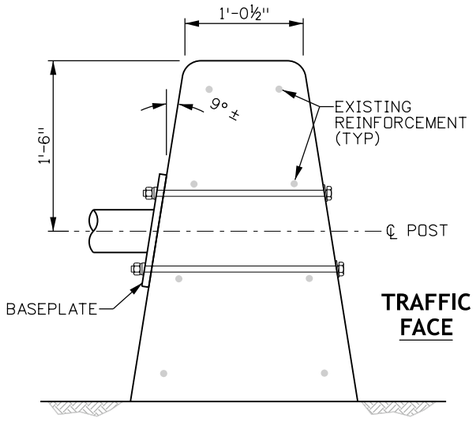
Bridge Rail Type 7



Guardrail Type 7



Bridge Rail Type 9



Guardrail Type 9

See M-606-15 (1/1)

BOLT SELECTION TABLE (FOR ALL WIND REGIONS)			
		MIN BOLT LENGTH **	
BARRIER TYPE	DIAMETER	TOP BOLT	BOTTOM BOLT
BRIDGE RAIL TYPE 7	3/4"	1'-3¾"	1'-4½"
BRIDGE RAIL TYPE 9		1'-0"	1'-0"
GUARDRAIL TYPE 7		1'-2½"	1'-4"
GUARDRAIL TYPE 9		1'-8¾"	2'-0"

** Field Verify Required Bolt Length Prior To Installation.

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