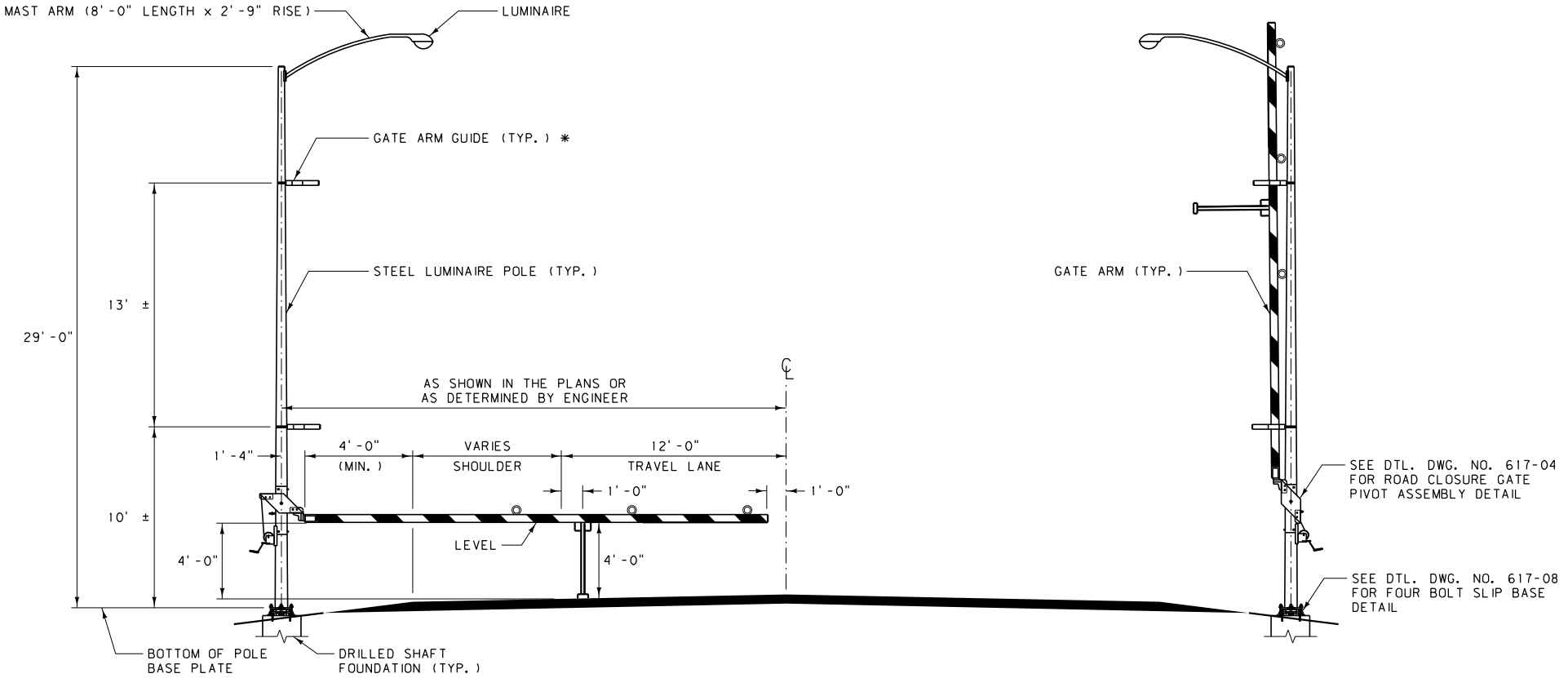
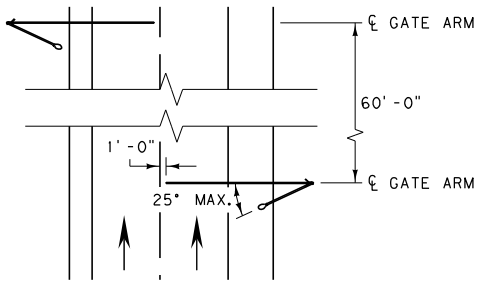


TYPICAL LOWERED POSITION

TYPICAL RAISED POSITION

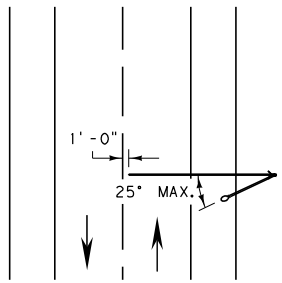
ELEVATION

DIVIDED HIGHWAY INSTALLATION SHOWN



TYPICAL DIVIDED HIGHWAY INSTALLATION

(2 GATES REQUIRED)



TYPICAL TWO-WAY, TWO-LANE INSTALLATION

(1 GATE REQUIRED)

NOTES:

* HEIGHT OF GATE ARM GUIDES MAY VARY AS REQUIRED FOR WARNING LIGHT CLEARANCES.

SEE DTL. DWG. NO. 617-02 FOR ADDITIONAL ROAD CLOSURE GATE DETAILS.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 617

DWG. NO. 617-00

ROAD CLOSURE GATE

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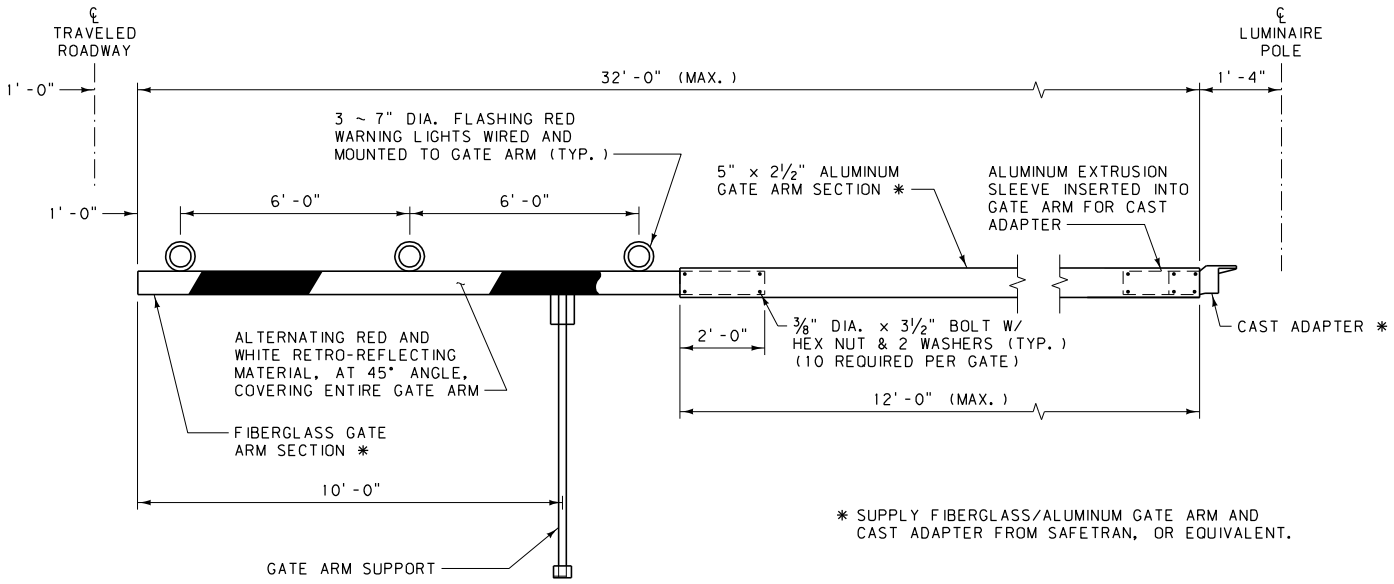
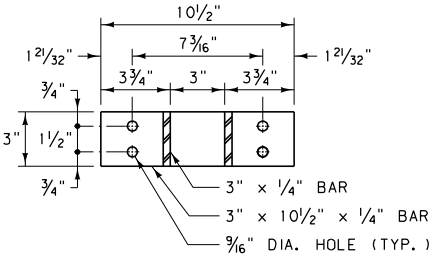
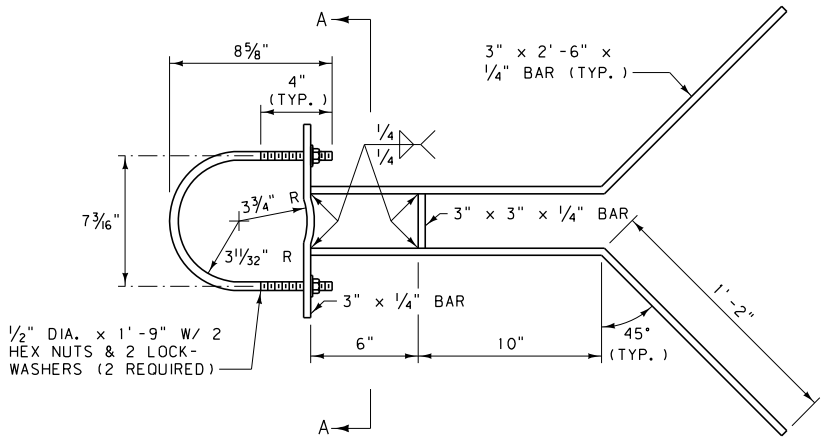


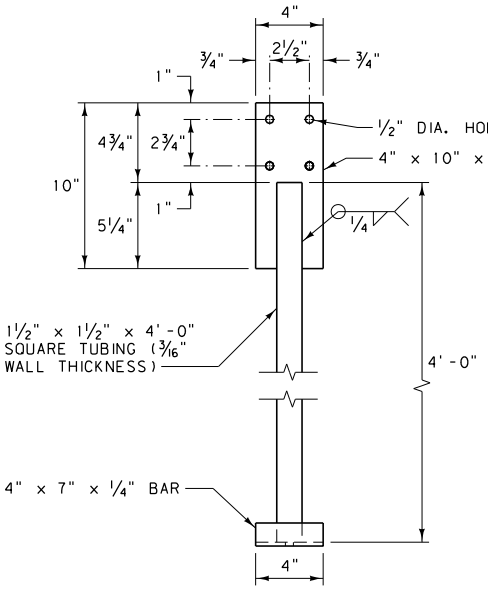
GATE ARM



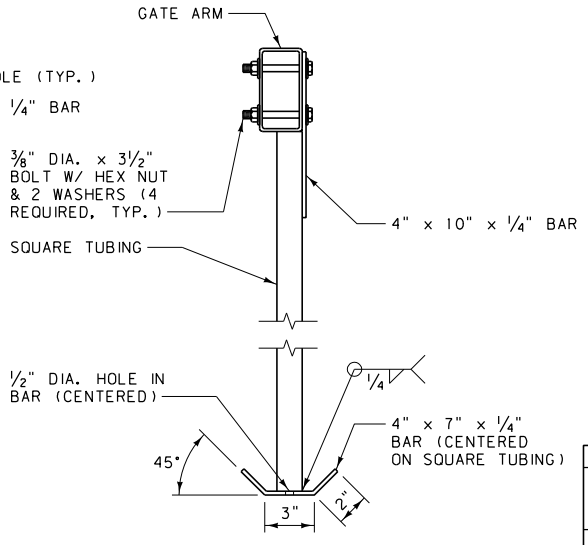
SECTION A-A
(U-BOLTS NOT SHOWN)



GATE ARM GUIDE



ELEVATION
(GATE ARM AND BOLTS NOT SHOWN)



RIGHT SIDE

GATE ARM SUPPORT

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 617

DWG. NO. 617-02

ROAD CLOSURE GATE DETAILS

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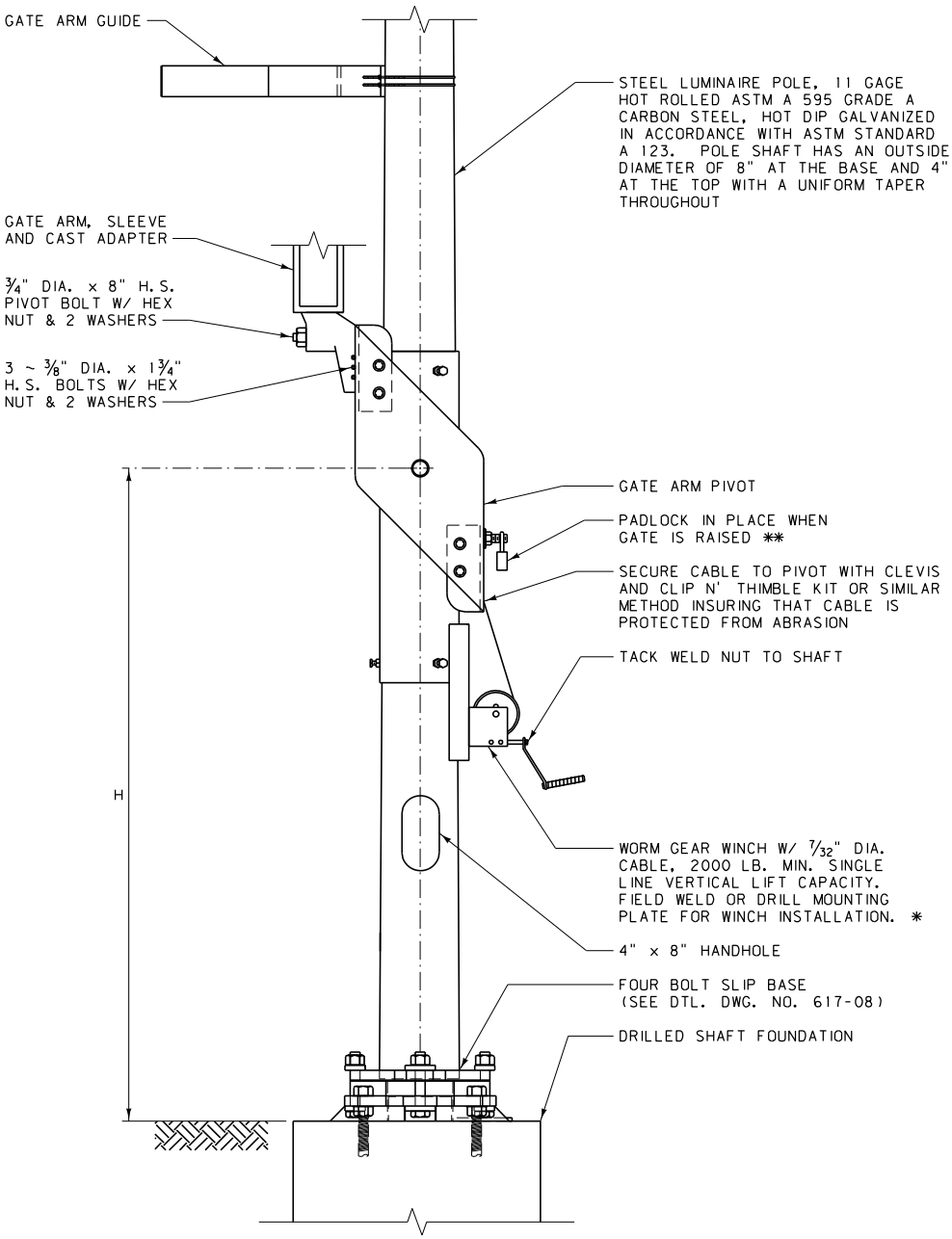

ROAD CLOSURE GATE
PIVOT ASSEMBLY

NOTES:

SEE DTL. DWG. NO. 617-06 FOR PIVOT ASSEMBLY DETAILS.

MOUNTING HEIGHT (H) WILL BE SHOWN IN THE PLANS OR SPECIFIED BY THE ENGINEER TO PROVIDE FOR THE PROPER HEIGHT OF THE GATE ABOVE THE ROADWAY.

ALL BOLTS DESIGNATED H.S. (HIGH STRENGTH) ARE TO CONFORM TO ASTM A 325. AFTER ROAD CLOSURE GATE ASSEMBLY, PAINT ALL EXPOSED BOLT THREADS OR DAMAGE TO THE GALVANIZING WITH TWO COATS OF ZINC RICH PAINT CONFORMING TO ASTM A 780.

* SUPPLY WORM GEAR WINCH AND CABLE FROM DUTTON - LAINSON (STOCK NUMBER 4Z183), OR EQUIVALENT.

** WHEN THE GATE IS FULLY RAISED, PLACE THE NUT AND WASHER SNUGLY AGAINST THE OUTSIDE OF THE REAR CHANNEL AND PADLOCK IN PLACE. SUPPLY ONE HEAVY, WEATHERPROOF PADLOCK WITH 2 KEYS FOR EACH GATE ARM PIVOT. KEY PAIRED PIVOTS (DIVIDED HIGHWAY INSTALLATION) ALIKE.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 617	DWG. NO. 617-04
ROAD CLOSURE GATE PIVOT ASSEMBLY	
EFFECTIVE: FEBRUARY 2005	
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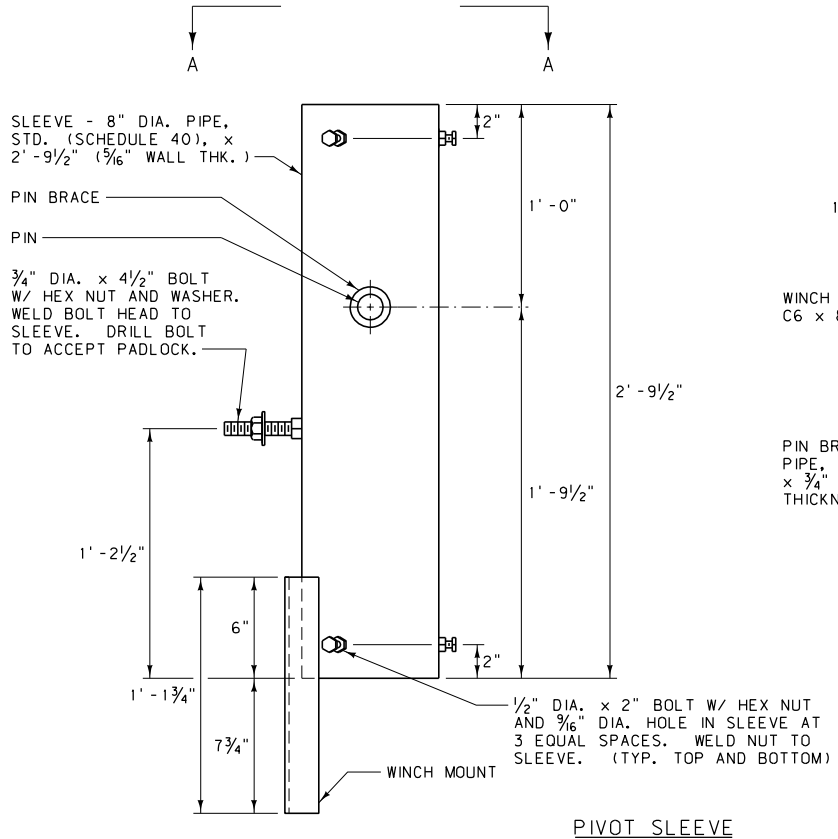
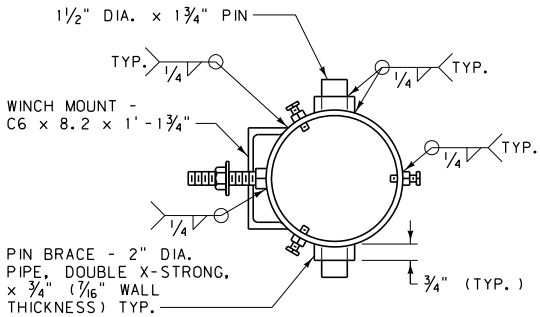
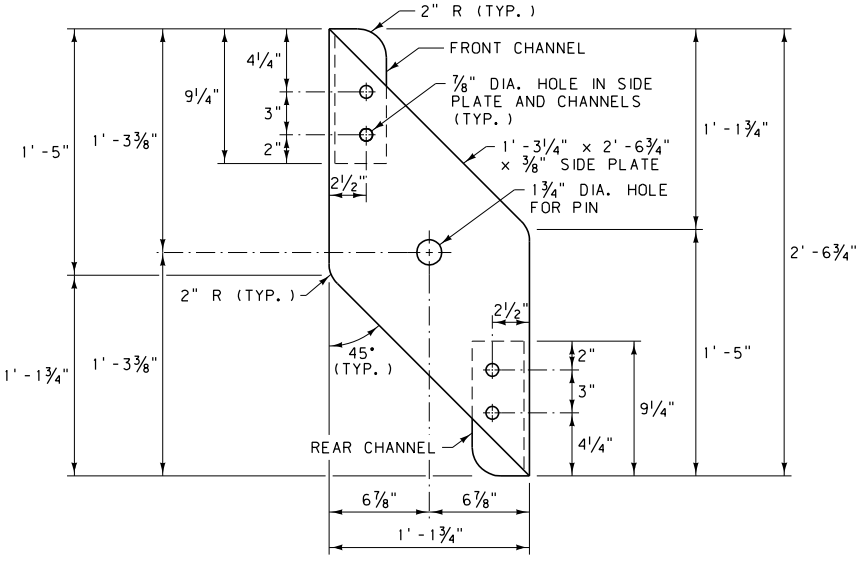


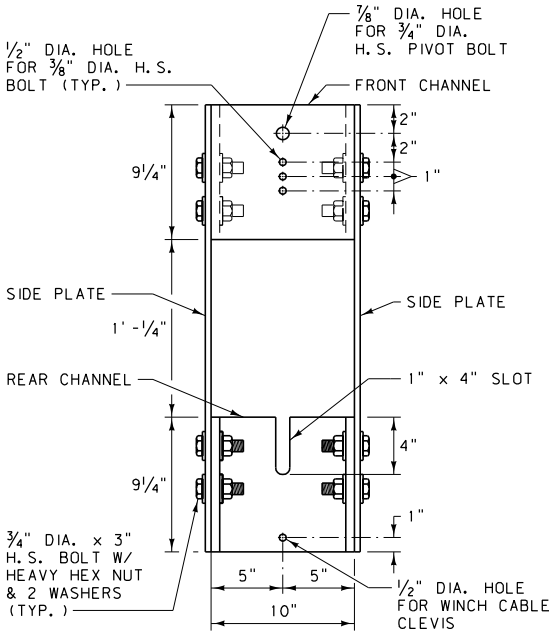
PIVOT SLEEVE



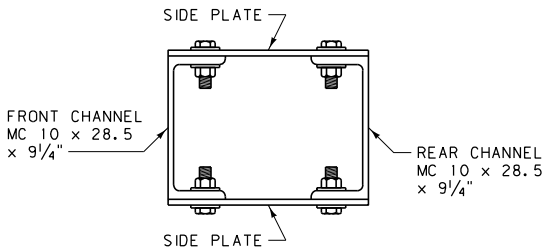
VIEW A-A



ELEVATION



END VIEW



PLAN

SIDE PLATE

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 617	DWG. NO. 617-06
ROAD CLOSURE GATE PIVOT ASSEMBLY DETAILS	
EFFECTIVE: FEBRUARY 2005	

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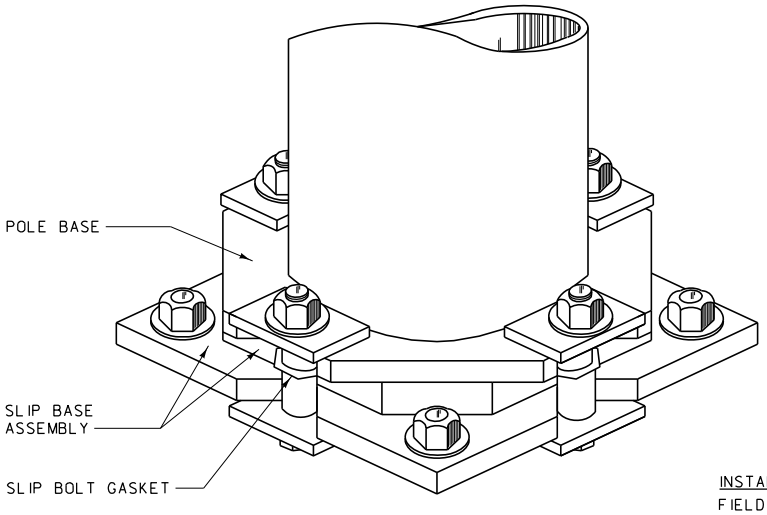


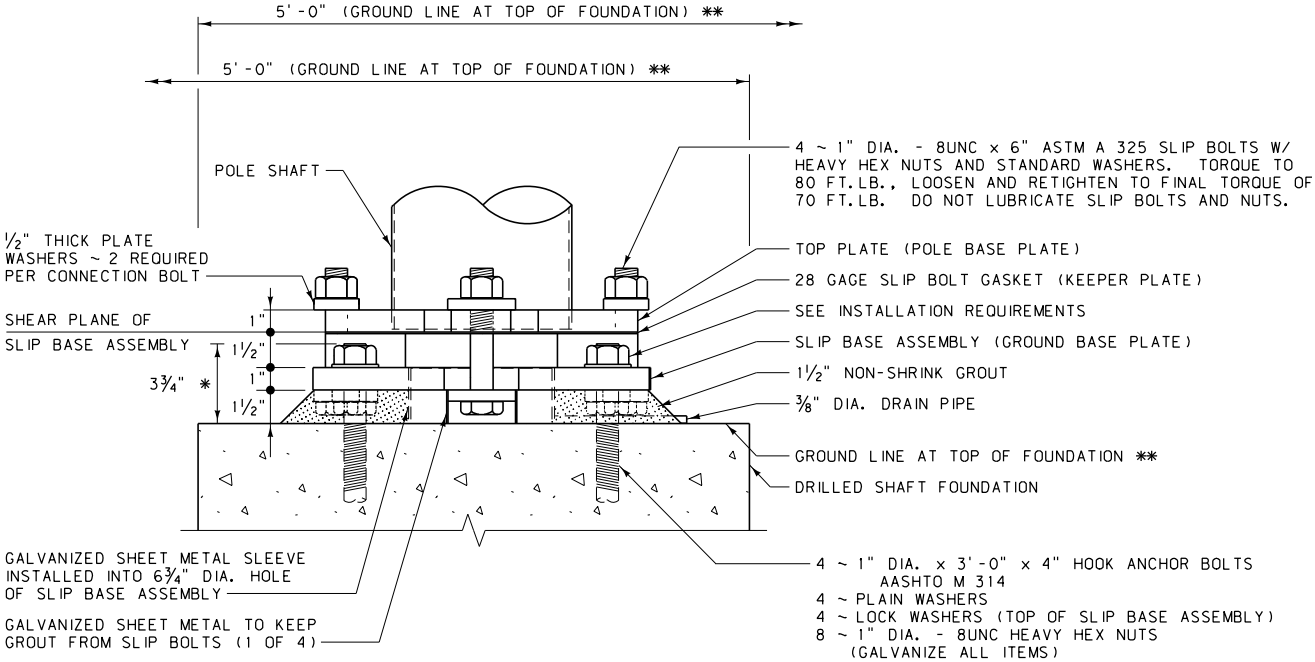
ISOMETRIC VIEW

* TOP OF ANCHOR BOLTS MUST BE BELOW SHEAR PLANE.

** IT IS CRITICAL THAT THE GROUND SURROUNDING THE CONCRETE FOUNDATION BE GRADED AND CONTOURED TO PREVENT VEHICLE UNDERCARRIAGE SNAGGING. ALL POINTS ON THE GROUND SURFACE ARE TO BE AT THE TOP OF THE FOUNDATION WITHIN ANY 5'-0" HORIZONTAL DISTANCE EXTENDING OVER THE SLIP BASE AS SHOWN, AND ALIGNING PERPENDICULAR TO THE ROADWAY CENTERLINE OR ON A RADIAL LINE FOR A CURVED ROADWAY.

INSTALLATION REQUIREMENTS FOR TOP NUTS OF ANCHOR BOLTS

FIELD LUBRICATE BEARING FACE AND THREADS OF TOP ANCHOR BOLT NUTS WITH A STICK WAX. TIGHTEN TOP NUTS TO SNUG-TIGHT. SNUG-TIGHT IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN THE GROUND BASE PLATE IS IN FIRM CONTACT WITH THE TOP AND BOTTOM NUTS, AND IS ATTAINED BY THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. AFTER THE SNUG-TIGHT CONDITION IS ATTAINED, ROTATE THE TOP NUTS AN ADDITIONAL 45° (+20°, -0°).



FOUR BOLT SLIP BASE

NOTES:

SEE DTL. DWG. NO. 617-10 FOR FOUR BOLT SLIP BASE DETAILS AND DRILLED SHAFT FOUNDATION.

CONFORM SLIP BOLT GASKET (KEEPER PLATE) TO ASTM A 653 GRADE 33 WITH COATING ASTM G 90.

CONFORM ALL PLATES TO ASTM A 709 (GRADE 36) OR AASHTO M 270.

GALVANIZE ALL STRUCTURAL STEEL AFTER FABRICATION ACCORDING TO ASTM A 123. ALL CONTACT AREAS OF STRUCTURAL STEEL ARE TO BE FREE OF GALVANIZING BEADS AND RUNS.

ELECTRO-PLATE ALL CONNECTING HARDWARE (HIGH STRENGTH BOLTS, HEAVY HEX NUTS AND STD. WASHERS) WITH CADMIUM IN ACCORDANCE WITH ASTM B 766 CLASS 12.

DO NOT ENCLOSE ANY SLIP BOLT HEADS OR WASHERS IN GROUT AND KEEP THEM COMPLETELY MECHANICALLY ACCESSIBLE, ALLOWING BOLTS TO BE FREELY PUSHED OUT DURING VEHICLE IMPACT.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 617	DWG. NO. 617-08
FOUR BOLT SLIP BASE	
EFFECTIVE: FEBRUARY 2005	

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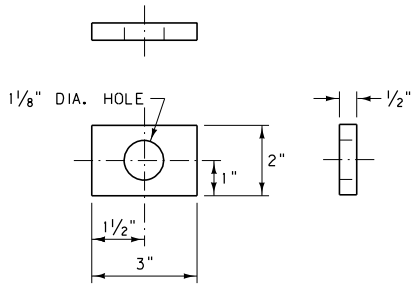
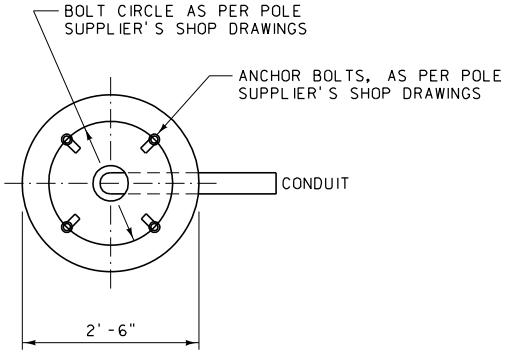
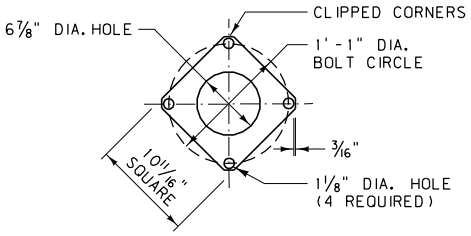
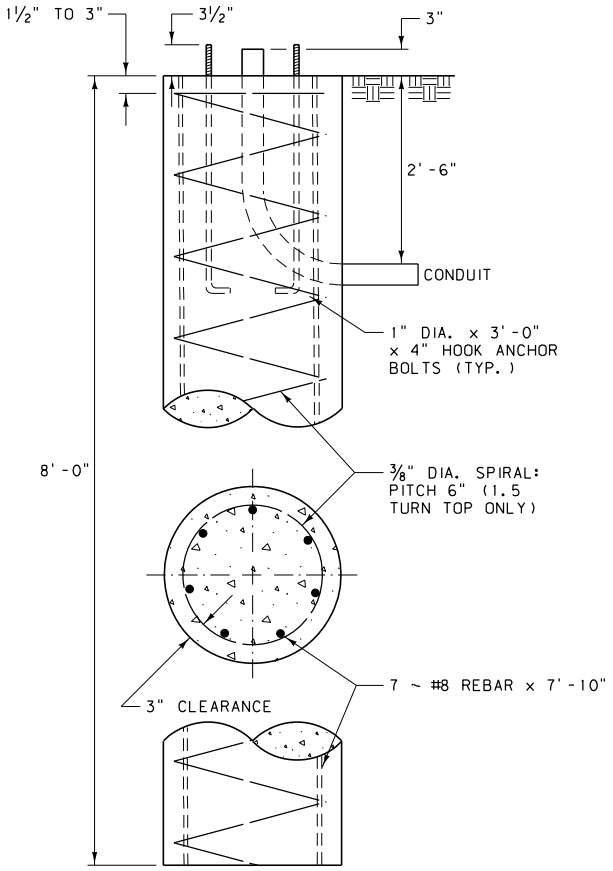


PLATE WASHER

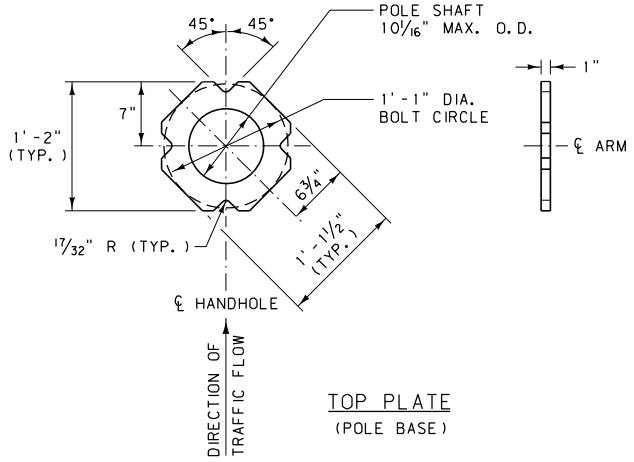




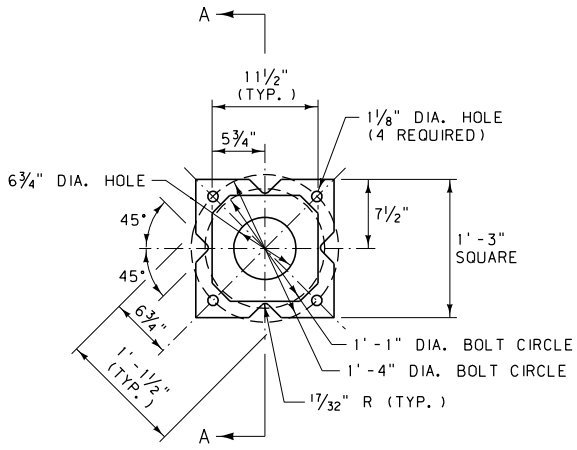
SLIP BOLT GASKET
(KEEPER PLATE)



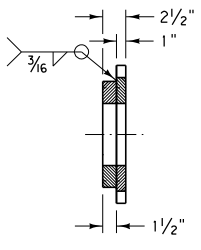
DRILLED SHAFT FOUNDATION
(LUMINAIRE POLE)



TOP PLATE
(POLE BASE)



SLIP BASE ASSEMBLY
(GROUND BASE PLATE)



SECTION A-A

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 617	DWG. NO. 617-10
FOUR BOLT SLIP BASE DETAILS	
EFFECTIVE: FEBRUARY 2005	

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