

GENERAL NOTES - ROADSIDE TRAFFIC SIGNS

CONSTRUCTION SPECIFICATIONS: CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, LATEST EDITION EXCEPT AS SUPPLEMENTED OR AMENDED BY THE PLANS, SUPPLEMENTAL SPECIFICATIONS AND/OR SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, 1994 AND INTERM SPECIFICATIONS.

STEEL: STEEL SHALL CONFORM TO A.S.T.M. A-709, GRADE 36. STEEL TUBING SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF A.S.T.M. DESIGNATION A-36 OR HOT-FORMED TUBING (A-501) OR PIPE (A-53) TYPE "E" OR "S", GRADE "B" OR COLD-FORMED TUBING (A-500) GRADE "B" OR "C", UNLESS OTHERWISE NOTED.

ALUMINUM: ALL ALUMINUM EXCEPT SIGN PANELS SHALL CONFORM TO ASTM B-221, B-308, OR B-429 ALLOY 6061-T6 UNLESS OTHERWISE NOTED. SIGN PANELS SHALL BE .080" THICK ALUMINUM CONFORMING TO ASTM B-209 ALLOY 5052-H38 OR 6061-T6.

CONCRETE AND REINFORCING STEEL: CONCRETE SHALL BE CLASS "M", UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO REINFORCING STEEL FABRICATION ARE OUT TO OUT OF BAR UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO REINFORCING STEEL SPACING ARE CENTER TO CENTER OF BAR OR FACE OF CONCRETE TO CENTERLINE OF BAR. REINFORCING STEEL SHALL HAVE A MINIMUM COVERING OF 2" EXCEPT WHEN CONCRETE IS CAST AGAINST THE EARTH THEN THE COVERING WILL BE 3". ALL REINFORCING STEEL SHALL BE GRADE 60. THE FIRST DIGIT OF REINFORCING BAR NUMBER INDICATES THE BAR SIZE. THE TOP EDGES OF THE FOOTING SHALL BE CHAMFERED 3/4".

CONCRETE FINISH: ALL PORTIONS OF THE FOOTINGS FOR CANTILEVERS AND TRUSSES ABOVE GROUNDLINE SHALL HAVE A FINISH IN ACCORDANCE WITH LOUISIANA SPECIFICATION. 805.08.3.

WELDING: ALL WELDING SHALL CONFORM TO THE L.A. STANDARD SPECIFICATIONS, SECTION 809 AND SUPPLEMENTAL SPECIFICATIONS.

GALVANIZING: ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A-123. DAMAGE TO GALVANIZED SURFACES THAT ARE NOT TO BE ENCASED IN CONCRETE SHALL BE REPAIRED IN ACCORDANCE WITH L.A. STANDARD SPECIFICATIONS, SECTION 811.08. ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A-153 . ALL FIELD HOLES IN GALVANIZED MATERIAL SHALL BE TREATED WITH A COLD GALVANIZING COMPOUND FROM THE A.M.L.

BOLTS: UNLESS NOTED, ALL THREADED CONNECTIONS SHALL INCORPORATE A LOCKING DEVICE AND HAVE A MINIMUM OF 3 THREADS BEYOND THE NUTS. ALL BOLTS SHALL BE HIGH STRENGTH BOLTS, A.S.T.M. A-325, UNLESS OTHERWISE NOTED. ANCHOR BOLTS SHALL CONFORM TO AASHTO M314, GRADE 55 (OR APPROVED EQUAL) AND BE HOT DIP GALVANIZED TO A.S.T.M. A-153. STAINLESS STEEL FOR BOLTS SHALL CONFORM TO A.S.T.M. DESIGNATION A-320 B8, CLASS 2 TYPE 304, OR A-193 B8, CLASS 2 TYPE 304, UNLESS OTHERWISE NOTED. STAINLESS STEEL NUTS SHALL CONFORM TO A.S.T.M. DESIGNATION A-194, GRADE 8, TYPE 304. ALUMINUM BOLTS SHALL CONFORM TO A.S.T.M. F-468 ALLOY 2024-T4 AND NUTS ARE A.S.T.M. F-467 ALLOY 6061-T6 OR 6262-T9. WHERE BOLTS ARE USED ON BEVELED SURFACES, BEVELED WASHERS SHALL BE PROVIDED TO GIVE FULL BEARING TO THE HEAD AND/OR THE NUT.

RIVETS: ALL RIVETS SHALL BE 1/4" DIAMETER BLIND RIVETS WITH POSITIVE MANDREL RETENTION. THE RIVET BODY AND MANDREL SHALL BE ALUMINUM WITH A 1/2" MAXIMUM DIAMETER DOME HEAD. THE RIVETS SHALL HAVE A MINIMUM ULTIMATE TENSILE STRENGTH = 875 LBS., AND CONFORM TO ASTM B-316 5056-H32.

BREAK-AWAY BASE: BASES FOR SIGNS LOCATED ADJACENT TO MORE THAN ONE ROADWAY (RAMP TERMINALS, INTERSECTIONS, ETC.) SHALL BE ORIENTED IN THE DIRECTION OF THE HIGHEST SPEED TRAFFIC. ALL MULTI-POST SIGNS WITH A DISTANCE BETWEEN POSTS OF 7'-0" CENTERS OR LESS SHALL HAVE BEVELED BASE CONNECTION. BASE CONNECTIONS SHALL BE WRAPPED PRIOR TO POURING THE FOOTING, WITH MATERIAL SUFFICIENT TO PREVENT CONCRETE SPLATTER ON THE BREAK-AWAY BASE ASSEMBLY.

ANCHOR BOLTS: ANCHOR BOLT NUTS TO BE TIGHTENED A MINIMUM ROTATION OF 240° (2/3 TURNS) FROM THE SNUG TIGHT CONDITION.

SIGN SHEETING: UNLESS OTHERWISE NOTED, ALL SIGN MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 1015 IN THE STANDARD SPECIFICATIONS. IN ORDER TO OBTAIN AN ACCEPTABLE COLOR MATCH BETWEEN MULTIPLE PANELS ON A GUIDE SIGN, ALL OF THE BACKGROUND SHEETING FOR ANY GUIDE SIGN SHALL BE THE MINIMUM WIDTH OF THE LARGEST PANEL AND SHALL COME FROM THE SAME LOT OR RUN NUMBER FROM THE SHEETING MANUFACTURER UNLESS OTHERWISE APPROVED IN WRITING. RETRO-REFLECTIVE SHEETING SHALL BE APPLIED TO ALL PANELS IN SUCH A MANNER THAT THERE ARE NO HORIZONTAL SPLICES.

OVERLAY PANELS FULL SIGN OVERLAY PANELS SHALL BE IN ACCORDANCE WITH SECTION 729.05.3. PARTIAL SIGN OVERLAYS AND ALL SHIELDS SHALL HAVE SHIMS AT ALL RIVETS. SHIMS SHALL BE AT LEAST .080" THICK AND SIZED SO THEY WILL NOT EXTEND BEYOND EDGE OF OVERLAY. RIVETS SHALL BE AS SPECIFIED ON THIS STANDARD DETAIL SHEET.

SIGN LOCATIONS: FOR GROUND MOUNTED SIGN INSTALLATIONS, THE ENGINEER MAY ADJUST THE TYPE D AND E SIGN LOCATIONS INDICATED ON THE PLANS. THIS WILL BE ALLOWED TO AVOID PLACEMENT IN DEEP DITCHES, STEEP BACKSLOPES, TREE LINES, AND ANY OTHER UNACCOUNTED FOR FIELD CONDITIONS AND TO PROVIDE BETTER MESSAGE PRESENTATION. ANY ADJUSTMENTS MUST BE WITH THE CONCURRENCE OF THE GEOMETRIC DESIGN ENGINEER.

SIGN TYPES: TYPE A = SMALL SIGN WITH ONE POST; TYPE B = CLUSTER ASSEMBLY OF TYPE A SIGNS; TYPE D = LARGE RECTANGULAR SIGN ADJACENT TO TRAFFIC MOUNTED WITH MULTIPLE POSTS; TYPE E = SECONDARY SIGN (SUCH AS AN EXIT NUMBER PANEL) ATTACHED TO A LARGE RECTANGULAR PRIMARY SIGN; DELINEATOR, MILEPOST AND OBJECT MARKER SIGNS ARE NOT COVERED UNDER TRAFFIC SIGNS. SEE STANDARD PLAN HS-03.

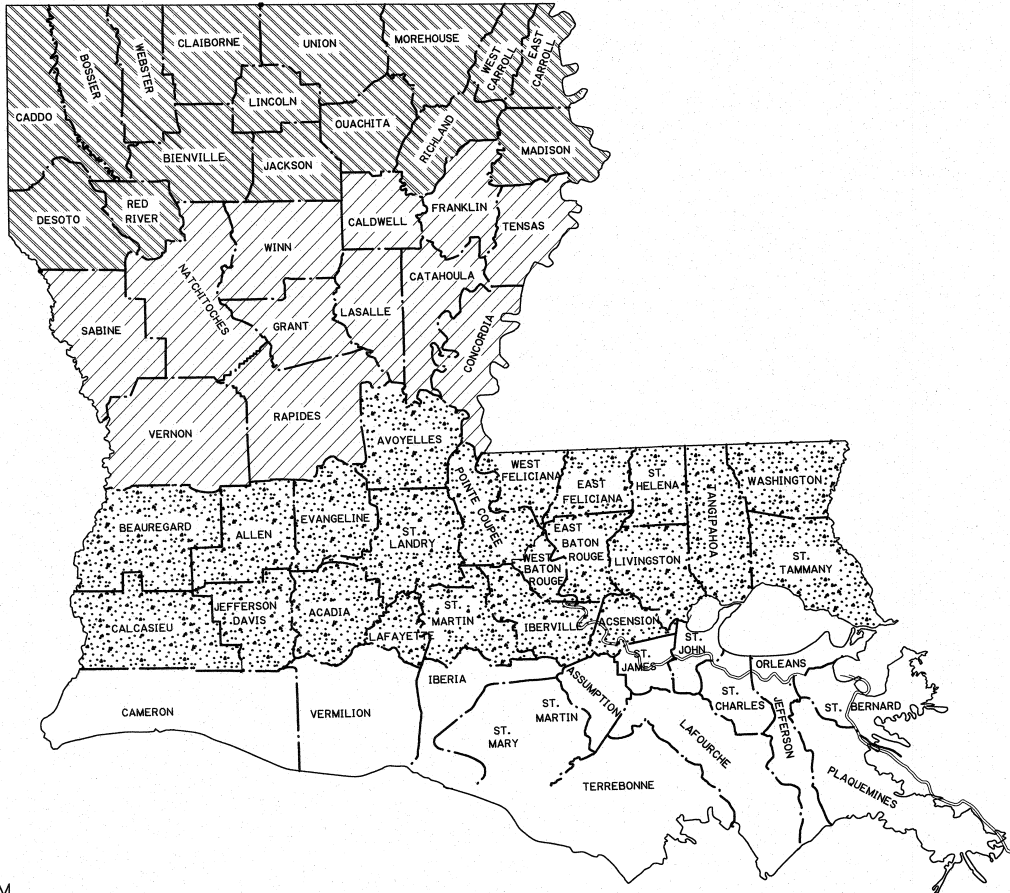
MISCELLANEOUS: THE CONTRACTOR SHALL MARK THE DATE OF FABRICATION, SHEETING MANUFACTURER CODE, AND SIZE OF SIGN ON THE BACK OF EACH SIGN. FOR EXTRUDED PANEL SIGNS THE LETTER HEIGHT SHALL BE 2". FOR ALL OTHER FLAT SHEETING SIGNS, THE LETTER HEIGHT SHALL BE 3/4". THE SIGN ID NUMBERS SHALL FOLLOW THE ABOVE REQUIREMENTS BUT SHALL HAVE A BLUE BACKGROUND WITH WHITE NUMBERS. ALL MARKINGS SHALL HAVE A CLEAR UV PROTECTIVE FILM INSTALLED OVER THEM. SEE DETAIL "A" SHEET 5 OF 17.

POST HINGE SPLICE ON MULTI-POST SIGNS WITH ALL POSTS CONNECTED BY A SECONDARY SIGN SHALL BE LOCATED BELOW THE SECONDARY SIGN. STUB POST SHALL BE ASSEMBLED TO SIGN POST WITH REQUIRED BOLTS AND ONE FLAT WASHER ON EACH BOLT BETWEEN PLATES PRIOR TO SHIPMENT. POST SPLICE SLIP PLATE SHALL BE ASSEMBLED TO MINIMUM BOLT TENSION IN SHOP PRIOR TO SHIPMENT. SIGN POST SHALL BE SHIPPED TO JOB SITE ASSEMBLED WITH ALL HARDWARE REQUIRED IN PLACE AND SECURED. EXPOSED ENDS OF ALL PIPE SHALL BE CAPPED. USE OF SECTIONS PROVIDING EQUAL OR GREATER STRENGTH FOR ANY MEMBER DESIGNATED ON THE PLANS SHALL BE SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL.

ALL DIMENSIONS REQUIRED FOR SATISFACTORY INSTALLATION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE FABRICATION. ADJUSTMENTS SHALL BE MADE AS DIRECTED BY THE ENGINEER.

ALL ALUMINUM SURFACES PLACED IN CONTACT WITH, OR FASTENED TO UNGALVANIZED STEEL MEMBERS SHALL BE THOROUGHLY COATED WITH AN APPROVED ALUMINUM IMPREGNATED CAULKING COMPOUND. PAINT ALUMINUM SECTIONS IN CONTACT WITH CONCRETE WITH A HEAVY COAT OF AN ALKALI RESISTANT BITUMINOUS PAINT OR A COAT OF ZINC CHROMATE PAINT AND ALLOW TO DRY BEFORE PLACING. ALUMINUM ALLOYS SHALL NOT BE PLACED IN CONTACT WITH COPPER, COPPER BASED ALLOYS, LEAD, OR NICKEL.

SHOP DRAWINGS: NOT REQUIRED FOR SIGN BACKING AND SMALL GROUND MOUNTED SIGN SUPPORTS, UNLESS FABRICATOR INTENDS TO DEVIATE FROM THE DETAILS HEREIN. SHOP DRAWING ARE REQUIRED FOR ALL STRUCTURE MOUNTED SIGNS.



WIND LOAD MAP

WIND LOAD MAP LEGEND			
SYMBOL	ROADSIDE MOUNTED		
	ZONE	WIND VELOCITY (MPH) ⓧ	WIND LOAD (PSF) Δ
	1	70	20
	2	80	27

ⓧ 25 YEAR MEAN RECURRENCE INTERVAL
Δ INCLUDES C_f = 1.2

SHEET	BRIDGE STANDARD INDEX NO.	DESCRIPTION
1 OF 17	BD.2.7.2.0.1	WIND LOAD MAP & GENERAL NOTES
2 OF 17	BD.2.7.2.0.2	PANEL DETAILS (TYPE A & B SIGNS)
3 OF 17	BD.2.7.2.0.3	MOUNTING DETAILS (TYPE A & B SIGNS)
4 OF 17	BD.2.7.2.0.4	SPACING OF POSTS FOR GROUND MOUNTED SIGNS
5 OF 17	BD.2.7.2.0.5	EXTRUDED ALUMINUM SIGNS (TYPE D & E SIGNS)
6 OF 17	BD.2.7.2.0.6	EXTRUDED ALUMINUM PANELS (TYPE D & E SIGNS)
7 OF 17	BD.2.7.2.0.7	ROADSIDE MOUNTED SIGNS (TYPE A, B, & D SIGNS)
8 OF 17	BD.2.7.2.0.8	ROADSIDE MOUNTED SIGN DETAILS (TYPE A & B SIGNS)
9 OF 17	BD.2.7.2.0.9	ROADSIDE MOUNTED SIGN DETAILS (TYPE D SIGNS)
10 OF 17	BD.2.7.2.0.10	SQUARE TUBE SIGN DETAILS
11 OF 17	BD.2.7.2.0.11	Z - BRACKET SIGN SUPPORT (F - SHAPE BARRIER)
12 OF 17	BD.2.7.2.0.12	Z - BRACKET SIGN SUPPORT (F - SHAPE BARRIER)
13 OF 17	BD.2.7.2.0.13	Z - BRACKET SIGN SUPPORT (POST AND RAIL BARRIER)
14 OF 17	BD.2.7.2.0.14	Z - BRACKET SIGN SUPPORT (POST AND RAIL BARRIER)
15 OF 17	BD.2.7.2.0.15	CONTRAFLOW SIGNS (GROUND MOUNTED)
16 OF 17	BD.2.7.2.0.16	CONTRAFLOW SIGNS (F - SHAPE BARRIER)
17 OF 17	BD.2.7.2.0.17	CONTRAFLOW SIGNS (POST AND RAIL BARRIER)

SHEET NUMBER

DESIGN

CHECK

DETAIL

REVIEW

SERIES

1 OF 17

PARISH

CONTROL SECTION

STATE PROJECT

K. BRAUNER

C. GUIDRY

K. BRAUNER

C. GUIDRY

C. BOURGEOIS

STATE OF LOUISIANA

KURT M. BRAUNER

License No. 30567

PROFESSIONAL ENGINEER

IN

CIVIL ENGINEERING

6/24/22

APPROVED BY CHIEF ENGINEER

7/1/2022

DATE

STATE OF LOUISIANA

TRANSPORTATION & DEVELOPMENT

WIND LOAD MAP & GENERAL NOTES

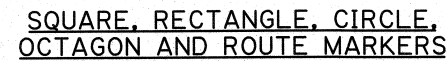
ROADSIDE SIGNING STANDARDS

STANDARD PLAN

DOTD

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

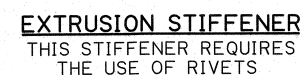


THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL
NOTES SHEET.

△ LOCATION OF BORDER ANGLE FROM EDGE

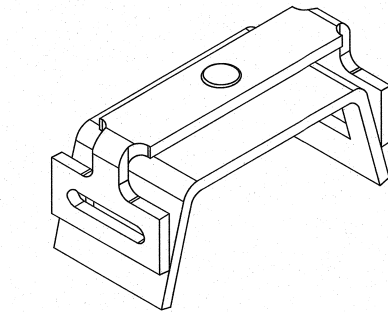
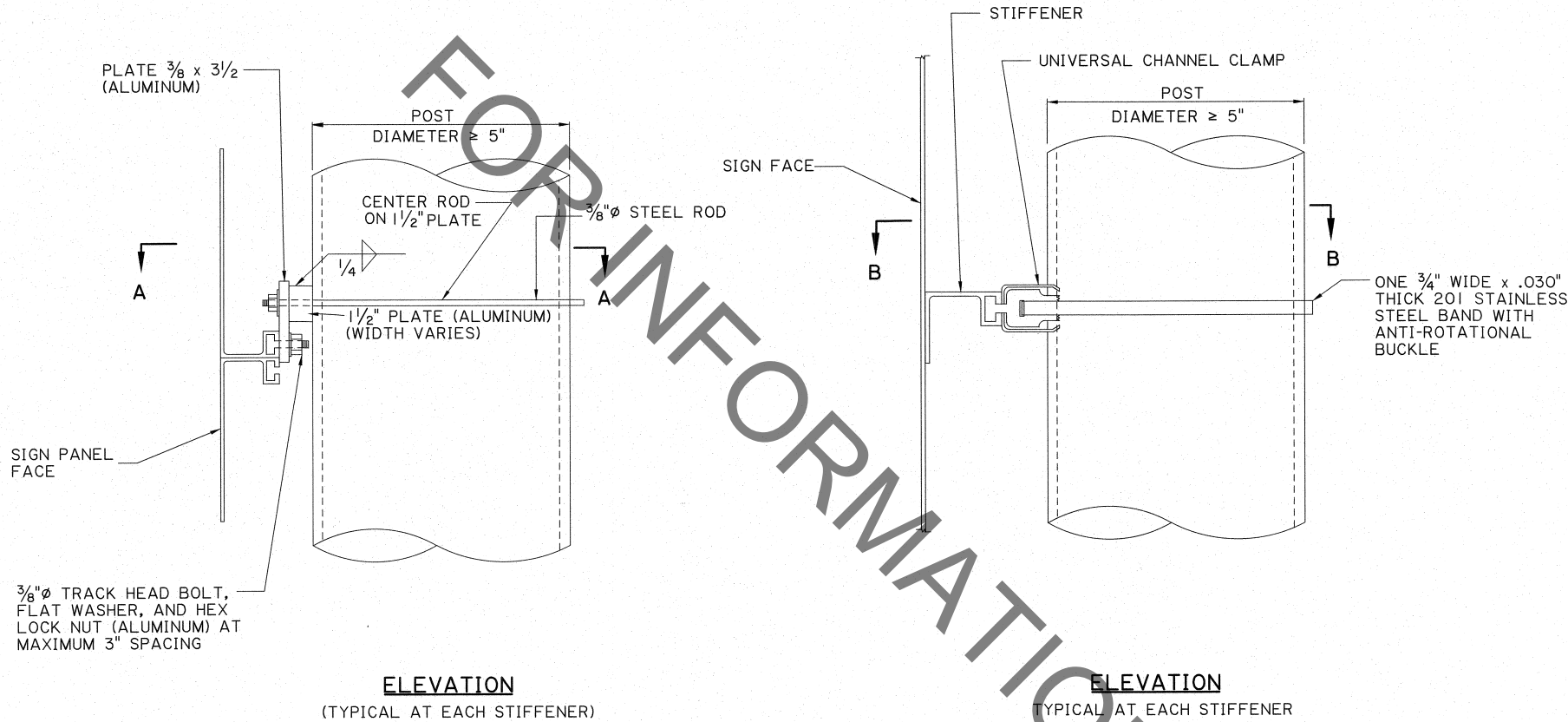
TYPE A SIGNS

EXTRUDED CHANNEL DETAIL

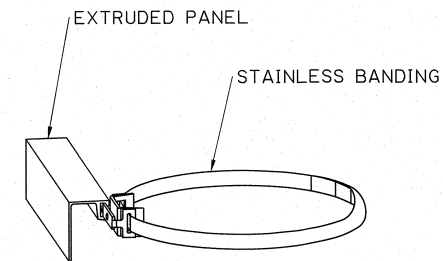


* SEE SIGN SUMMARY SHEET
IN THE PLAN SET AND THE
APPLICABLE SIGN SHAPE
TABLE ON THIS SHEET FOR
DIMENSIONS

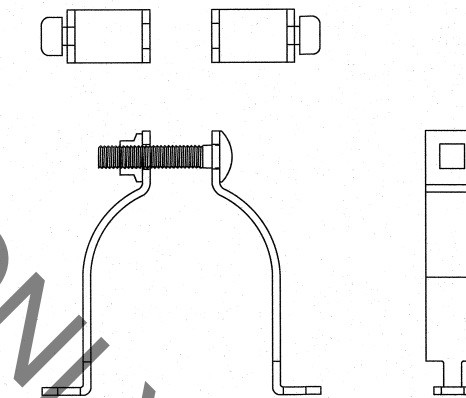
— ONE $\frac{3}{8}$ " \varnothing TRACK HEAD BOLT, FLAT
WASHER, AND HEX LOCK NUT (ALUMINUM)
OR TWO POST CLIP ASSEMBLIES



STAINLESS STEEL BANDING



EXTRUDED PANEL BANDING CLIP



ROUND POST CLAMPS

NOTES:
NO BOLTS SHALL BE PLACED THROUGH FACE OF SIGN.
ALL TRACK HEAD BOLTS SHALL HAVE HEADS DESIGNED TO FIT AND TRANSMIT LOAD TO BOLT SLOTS IN THE STIFFENER.
MOUNTING CLAMP REQUIRED AT EACH HORIZONTAL STIFFENER.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGN	CHECK	K. BRAUNER	C. GUIDRY	DETAIL	CHECK	K. BRAUNER	C. GUIDRY
REVIEW		C. BOURGEOIS		SERIES #		3 OF 17	

STATE OF LOUISIANA

KURT M. BRAUNER

License No. 30567

PROFESSIONAL ENGINEER

CIVIL ENGINEERING

6/24/22

APPROVED BY CHIEF ENGINEER: *[Signature]* DATE: 7/1/2022

STATE OF LOUISIANA

DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

MOUNTING DETAILS (TYPE A & B SIGNS)

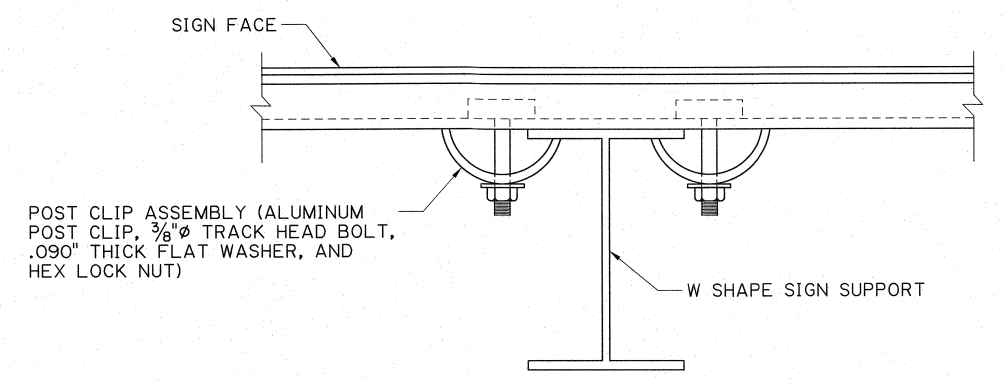
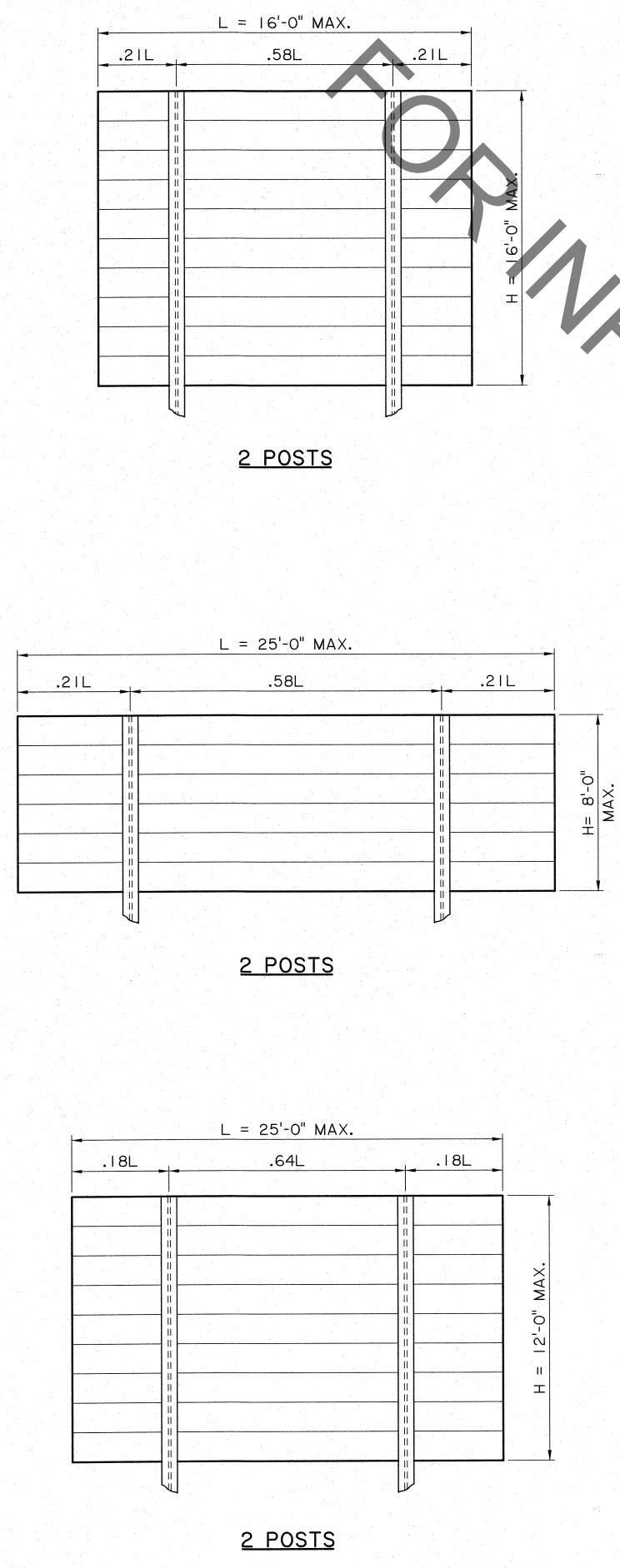
ROADSIDE SIGNING STANDARDS

STANDARD PLAN

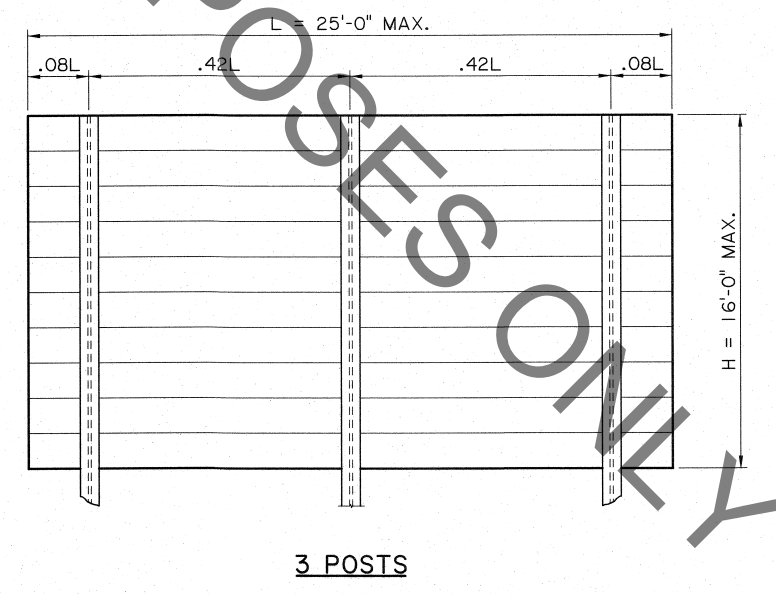
DOTD

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN



MOUNTING DETAIL (TYPE II)



DESIGN
CHECK
DETAIL
CHECK
REVIEW

K. BRAUNER
C. GUIDRY
K. BRAUNER
C. GUIDRY
C. BOURGEOIS

PARISH
CONTROL SECTION
STATE PROJECT

SHEET NUMBER
SERIES # 4 OF 17

STATE OF LOUISIANA
KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
KMB
6/24/22

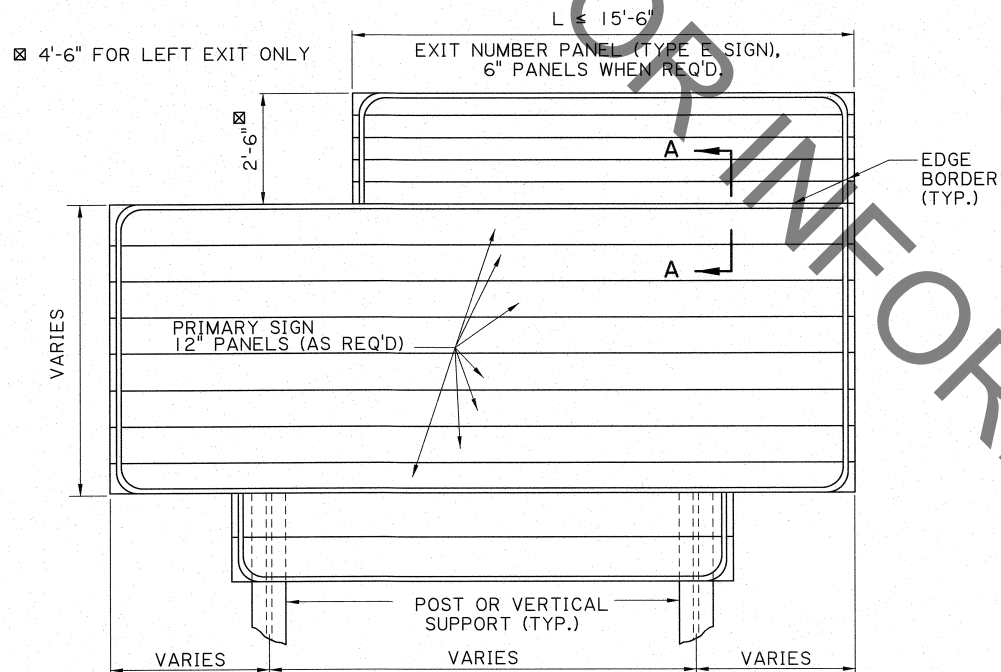
APPROVED BY CHIEF ENGINEER
Christy P. H. [Signature]
DATE: 7/1/2022

STATE OF LOUISIANA
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

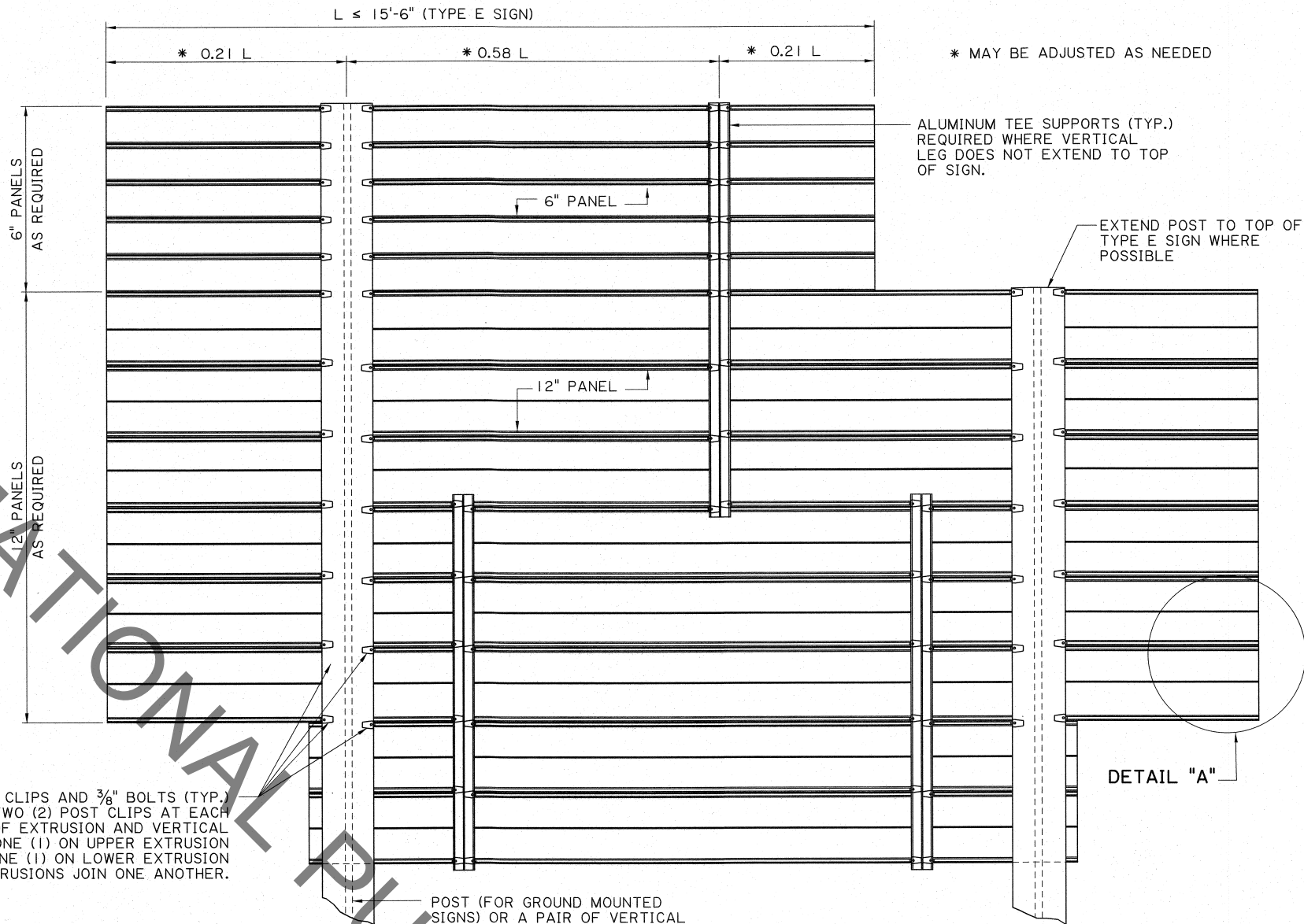
SPACING OF POSTS FOR
GROUND MOUNTED SIGNS

BRIDGE AND
STRUCTURAL
DESIGN

STANDARD PLAN
ROADSIDE SIGNING STANDARDS



FRONT ELEVATION



BACK ELEVATION

NOTES:

EXTRUDED ALUMINUM PANELS WILL BE ALLOWED AS AN ALTERNATE TO SIGN PANEL DETAILS FOR TYPE "D" AND "E" GROUND MOUNTED SIGNS ONLY. NUMBER AND SPACING OF POST SHALL MATCH THOSE SHOWN FOR PANEL DETAILS.

ALL 12" EXTRUDED ALUMINUM PANELS SHALL BE ALUMINUM ALLOY 6063-T6.
ALL POST CLIPS SHALL BE ALUMINUM ALLOY 356-T6.
ALL EXTRUDED PANEL BOLTS AND POST CLIP BOLTS SHALL BE ALUMINUM.
ALL HEX LOCK NUTS SHALL BE ALUMINUM ALLOY 2017-T4.
ALL POST CLIP BOLTS SHALL BE TORQUED TO A MINIMUM OF 175 IN-LBS.
ALL POST CLIP BOLTS SHALL HAVE HEADS DESIGNED TO FIT THE BOLT SLOTS IN THE PANELS.

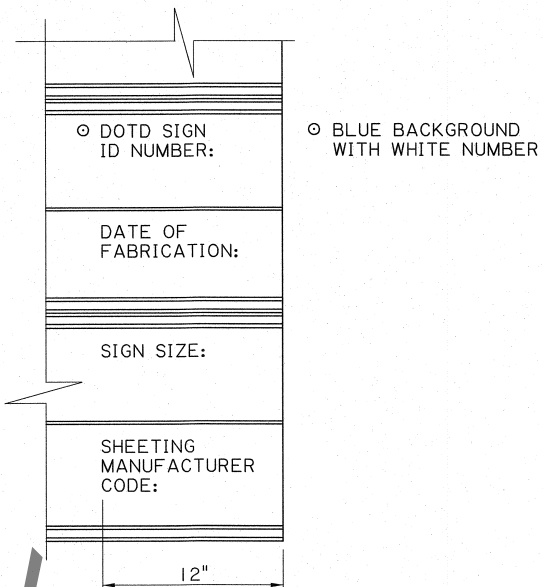
TYPE E SIGNS SHALL BE ATTACHED TO PRIMARY SIGNS WITH ALUMINUM TEE SUPPORTS, (5'-1" LENGTH), POST CLIPS, POST CLIP BOLTS, AND HEX LOCK NUTS.

FOR NEW OVERHEAD SIGNS (INCLUDING FASCIA MOUNTED) INCORPORATING EXISTING MOUNTS, THE CONTRACTOR WILL PLACE VERTICAL SUPPORT ANGLES WITHOUT SPLICES THAT EXTEND THE FULL HEIGHT OF THE EXTRUDED PRIMARY SIGN PANEL.

FOR NEW TYPE D SIGNS INCORPORATING EXISTING MOUNTS, THE EXISTING POST MAY BE REUSED IF THE NEW SIGN PANEL DOES NOT EXTEND OVER 2'-0" ABOVE THE EXISTING POST. SUCH NEW SIGNS WILL BE MOUNTED TO ALUMINUM TEE SUPPORTS BEGINNING AT THE TOP OF THE SIGN AND EXTENDING DOWNWARD FROM THE TOP OF THE POST THE DISTANCE THE NEW SIGN IS ABOVE THE EXISTING POST PLUS 1'-0". ONE TEE IS REQUIRED ADJACENT TO EACH EXISTING POST AND ATTACHED WITH POST CLIPS AS SHOWN FOR NEW TYPE E SIGNS. IF THE NEW SIGN EXTENDS OVER 2'-0" ABOVE THE EXISTING POST, THE CONTRACTOR IS TO REPLACE THE EXISTING POST AND MEET DETAILS FOR NEW CONSTRUCTION.

REFLECTIVE SHEETING FOR EXTRUDED PANELS: ONLY SPLICES THAT OCCUR AS PART OF THE MANUFACTURING PROCESS SHALL BE PERMITTED. A MAXIMUM OF TWO VERTICAL SPLICES ON ANY ONE SIGN FABRICATED USING EXTRUDED PANELS, WITH ONE SPLICE PER EXTRUDED PANELS SHALL BE ALLOWED. ALL "EXIT ONLY" PANELS THAT ARE DETAILED WITH THE TOP AND/OR BOTTOM EDGE NOT AT AN EXTRUDED PANEL EDGE SHALL BE FABRICATED FROM .080" ALUMINUM AND ATTACHED AS AN OVERLAY. ALL OTHER "EXIT ONLY" PANELS SHALL BE FABRICATED BY APPLYING THE YELLOW REFLECTIVE SHEETING ON THE EXTRUDED PANELS. THE REFLECTIVE SHEETING APPLIED TO EXTRUDED PANELS SHALL EXTEND APPROXIMATELY 1/4" OVER EACH SIDE AND SHALL BE ADHERED TO THE SIDE OF THE PANEL.

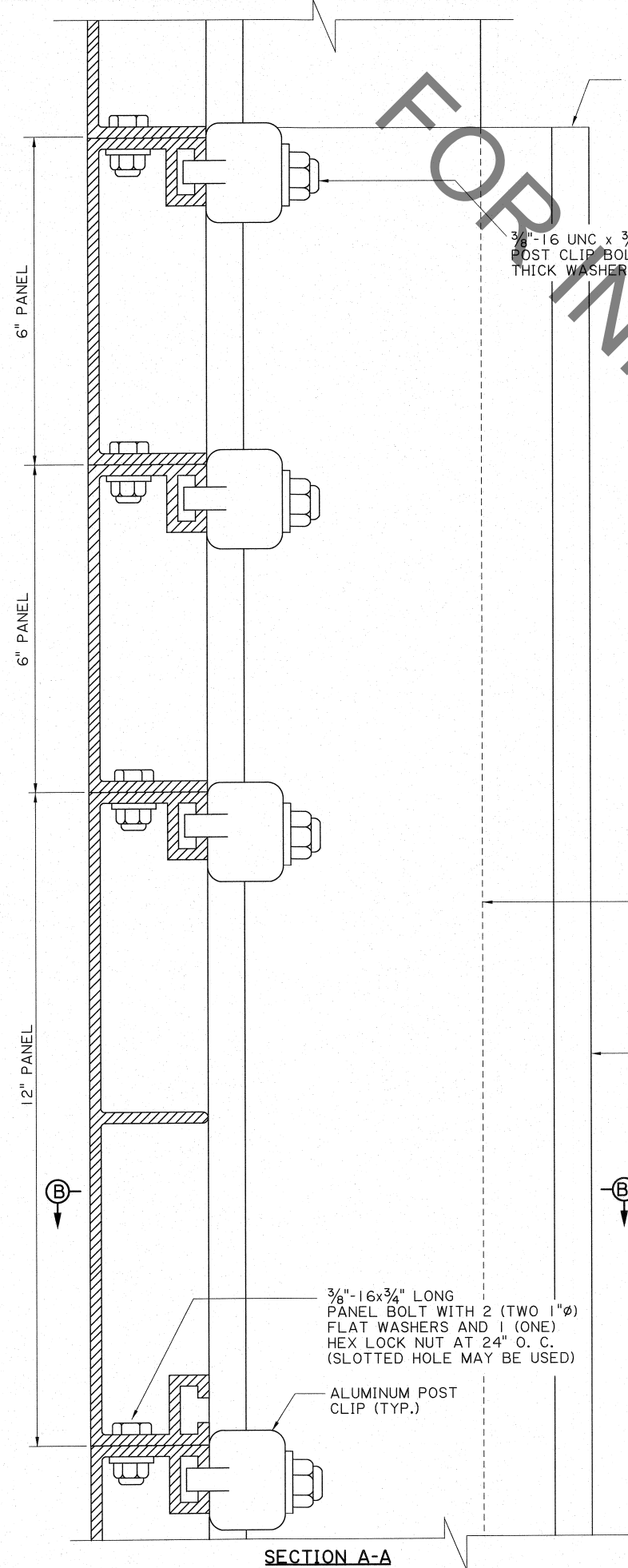
THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL NOTE SHEET.



DETAIL "A"

2" LETTERING IN LAST 12" OF SIGN, SEE MISCELLANEOUS NOTE ON GENERAL NOTE SHEET OF TRAFFIC SIGN DETAILS.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGN	CHECK	K. BRAUNER	C. GUIDRY	DETAIL	CHECK	K. BRAUNER	C. GUIDRY
REVIEW	C. BOURGEOIS	SERIES # 5 OF 17					
APPROVED BY CHIEF ENGINEER: DATE: 7/1/2022							
EXTRUDED ALUMINUM SIGNS (TYPE D & E SIGNS)							
ROADSIDE SIGNING STANDARDS							
BRIDGE AND STRUCTURAL DESIGN							



POST TO BE EXTENDED TO TOP OF SIGN BUT NOT BEYOND

3/8"-16 UNC x 3/4" LONG POST CLIP BOLT WITH FLAT .090 THICK WASHER AND HEX LOCK NUT

0.031" R (TYP. FACE CORNERS)

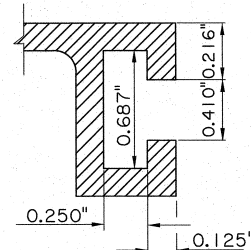
ALUMINUM TEE SUPPORT

W POST (SHOWN) OR VERTICAL SUPPORT ANGLE

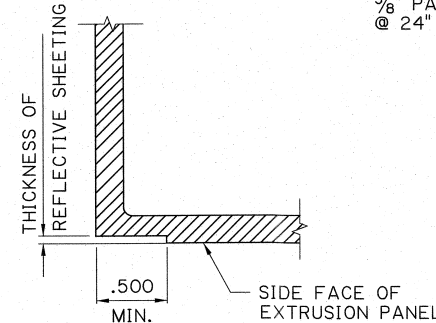
3/8"-16x3/4" LONG PANEL BOLT WITH 2 (TWO 1"Ø) FLAT WASHERS AND 1 (ONE) HEX LOCK NUT AT 24" O. C. (SLOTTED HOLE MAY BE USED)

ALUMINUM POST CLIP (TYP.)

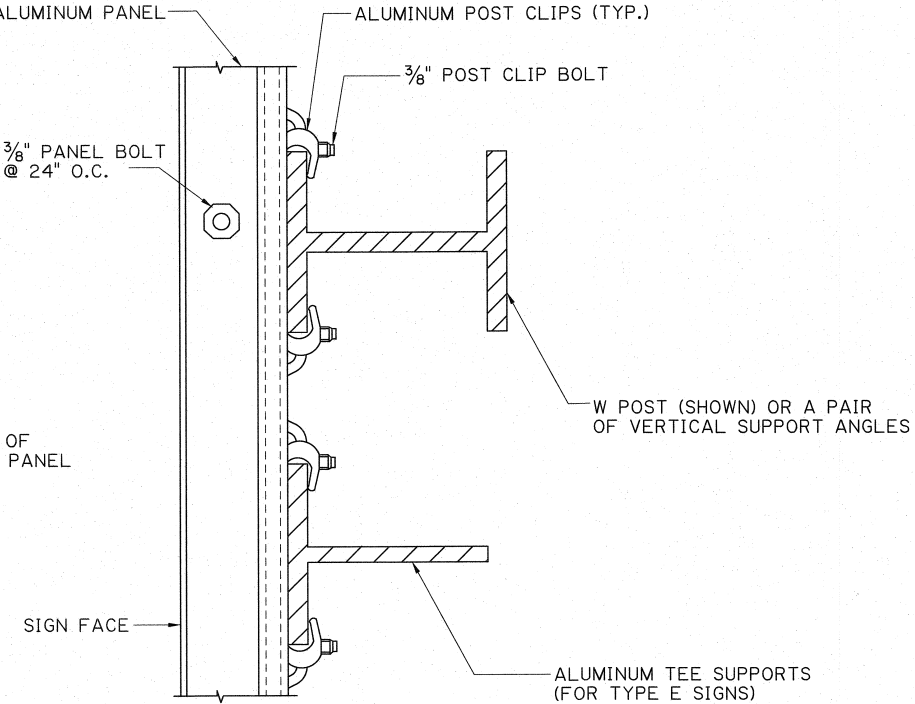
SECTION A-A



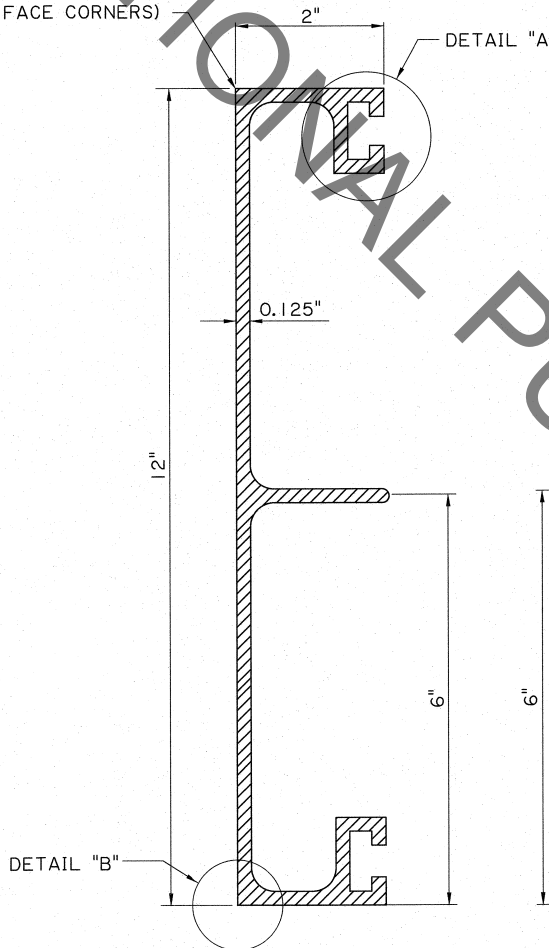
DETAIL "A"



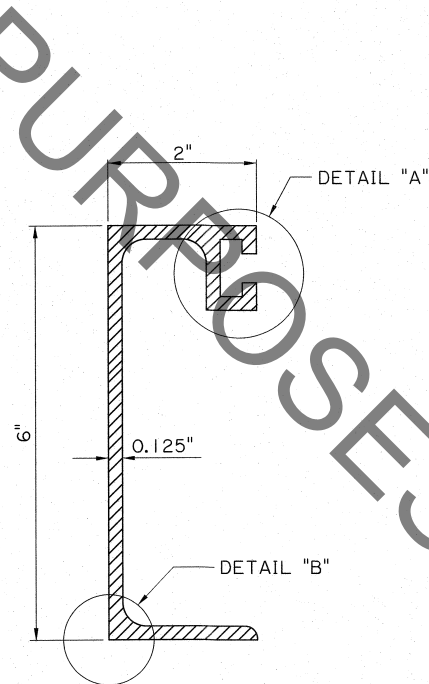
DETAIL "B"



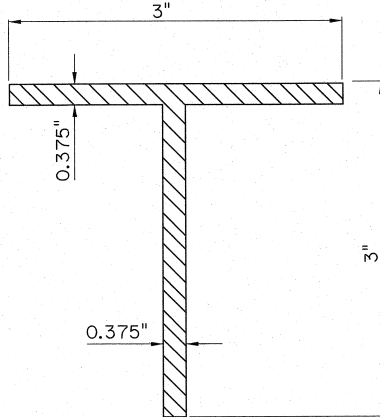
SECTION B-B



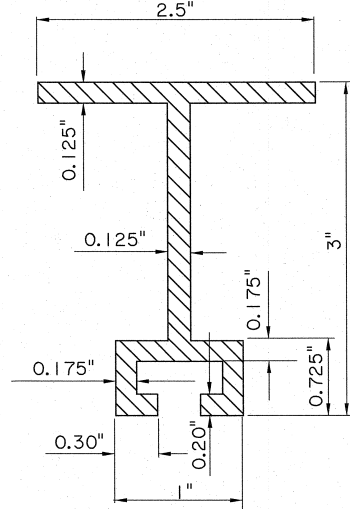
12" PANEL
MINIMUM WALL THICKNESS IS 0.080" UNLESS OTHERWISE SPECIFIED



6" PANEL
MINIMUM WALL THICKNESS IS 0.080" UNLESS OTHERWISE SPECIFIED



3"x3"x3/8"



3"x2.5"

ALUMINUM TEE SUPPORTS
FOR TYPE E SIGNS

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGN	K. BRAUNER	CHECK	C. GUIDRY	DETAIL	K. BRAUNER	CHECK	C. GUIDRY
REVIEW	C. BOURGEOIS	SERIES # 6 OF 17					

STATE OF LOUISIANA

KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

KMB
6/24/22

APPROVED BY CHIEF ENGINEER:

Christy P. Smith
7/1/2022

DATE:

STATE OF LOUISIANA

EXTRUDED ALUMINUM PANELS
(TYPE D & E SIGNS)

ROADSIDE SIGNING STANDARDS

STANDARD PLAN

DOTD
LOUISIANA DEPARTMENT OF
TRANSPORTATION & DEVELOPMENT

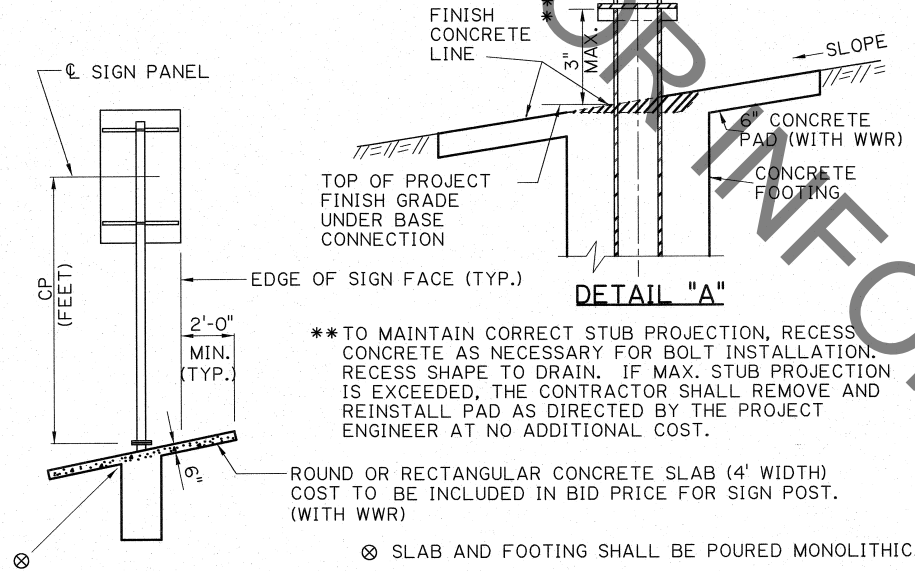
BRIDGE AND
STRUCTURAL
DESIGN

TYPE A SIGN

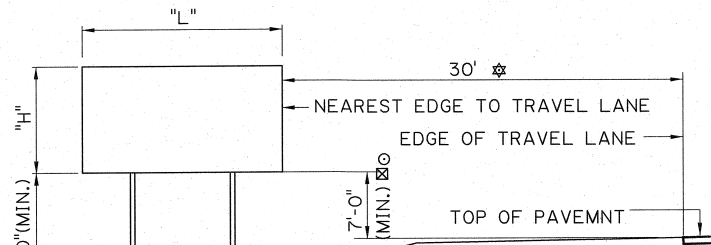
RECTANGULAR SHAPES:
4'-0" MAX. HORIZ. DIM.
DIAMOND SHAPES:
5'-0" MAX. EDGE DIM.
OTHER SHAPES:
5'-0" MAX. HORIZ. DIM.

TYPE B SIGN

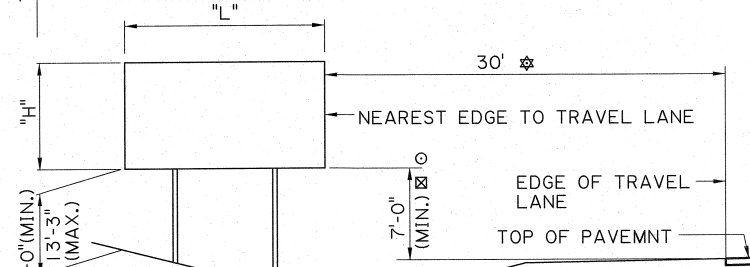
CLUSTER ASSEMBLY
MAX. DIM. FOR DIFFERENT SIGN BLANK
SHAPES ON SINGLE POST SIGNS.
DIAMOND: 5'-0"x5'-0"
TRIANGLE: 5'-0"x5'-0"x5'-0"
OTHERS: 5'-0" MAX. HORIZ. DIM.



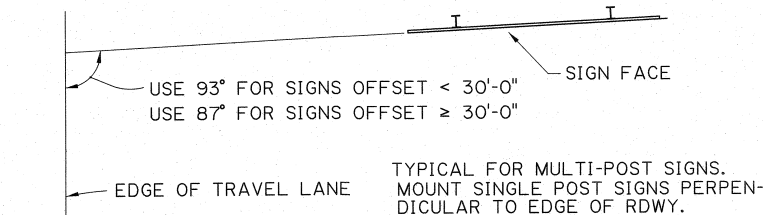
REAR ELEVATION OF SINGLE POST MOUNTING



DETAIL FOR ALL SIGNS LOCATED ON FORE SLOPE (TWO SUPPORTS SHOWN)



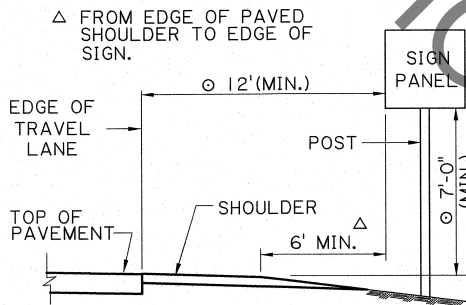
DETAIL FOR ALL SIGNS LOCATED ON BACK SLOPE (TWO SUPPORTS SHOWN)



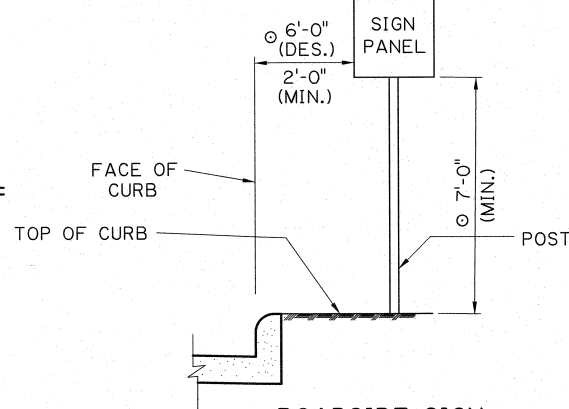
LOCATION OF ALL GROUND MOUNTED SIGN STRUCTURES (TWO SUPPORTS SHOWN)

SINGLE POST MOUNTS	
TOTAL SQ. FT. SIGN AREA	
STEEL ALTERNATE	
CP	ZONE I
5	10
15	20
25	30
35	40
45	50
55	60
65	70
75	80
85	90
95	100
105	110
115	120
125	130
135	140
145	150
155	160
165	170
175	180
185	190
195	200
205	210
215	220
225	230
235	240
245	250
255	260
265	270
275	280
285	290
295	300
305	310
315	320
325	330
335	340
345	350
355	360
365	370
375	380
385	390
395	400
405	410
415	420
425	430
435	440
445	450
455	460
465	470
475	480
485	490
495	500
505	510
515	520
525	530
535	540
545	550
555	560
565	570
575	580
585	590
595	600
605	610
615	620
625	630
635	640
645	650
655	660
665	670
675	680
685	690
695	700
705	710
715	720
725	730
735	740
745	750
755	760
765	770
775	780
785	790
795	800
805	810
815	820
825	830
835	840
845	850
855	860
865	870
875	880
885	890
895	900
905	910
915	920
925	930
935	940
945	950
955	960
965	970
975	980
985	990
995	1000

SINGLE POST PIPE & TUBE SECTIONS	
NO.	STEEL
1	2 1/2" Ø SCH. 40
2	3 1/2" Ø SCH. 40
3	5" Ø SCH. 40
4	6" Ø SCH. 40



ROADSIDE SIGN RURAL INTERSECTIONS



ROADSIDE SIGN URBAN INTERSECTIONS

NOTES:

W POST SECTIONS AND TABLE:
COLUMNS HEADED BY THE NUMBERS 27 AND 20 REPRESENT THE DESIGN WIND PRESSURE IN POUNDS PER SQUARE FOOT.
SEE ACCOMPANYING LOUISIANA WIND MAP TO DETERMINE THE DESIGN WIND PRESURE.
L - LENGTH OF SIGN PANEL DESIGNED.
H - HEIGHT OF SIGN PANEL DESIGNED.
ALL DIMENSIONS ARE IN INCREMENTS OF EVEN FEET.

THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL NOTE SHEET.

CONCRETE SLAB TO BE REINFORCED WITH A.S.T.M. A1064 WWR 4x4-W4.0 x W4.0 AND FINISHED IN ACCORDANCE WITH LA. STD. SPECS. 805.08.5.

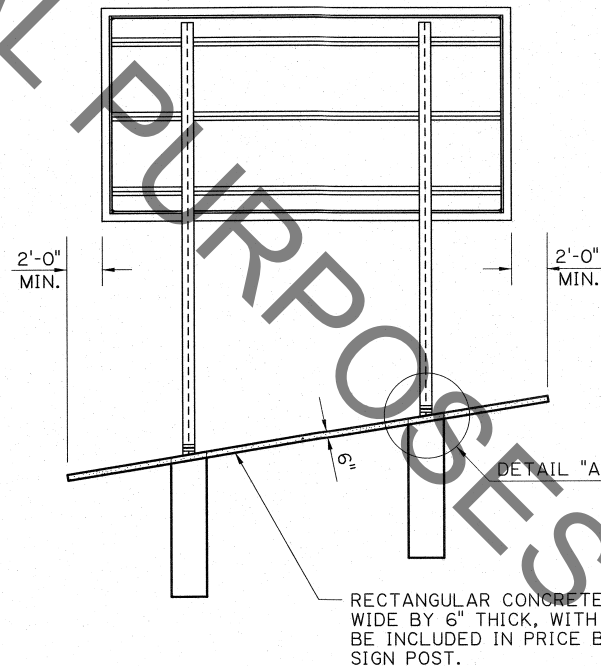
30' MAX. (15' MIN.) FOR FREEWAYS AND EXPRESSWAYS. 15' FOR FRONTAGE ROADS, "BRIDGE ICES BEFORE ROAD" SIGNS, AND TYPE D RAMP SIGNS. SEE SIGN SUMMARY SHEETS. PROJECT ENGINEER MAY ADJUST ON A CASE-BY-CASE BASIS.

7' MINIMUM FOR ROUTE MARKERS, WARNING AND REGULATORY SIGNS. 8' MINIMUM FOR GUIDE SIGNS WHEN SECONDARY SIGN MOUNTED BELOW.

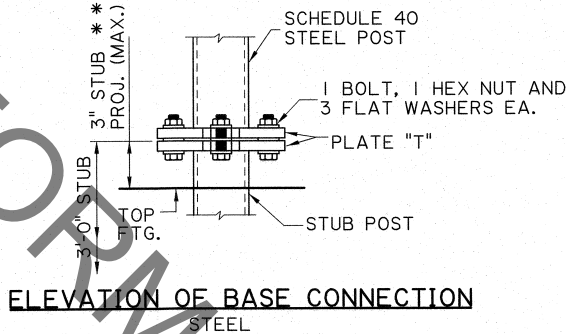
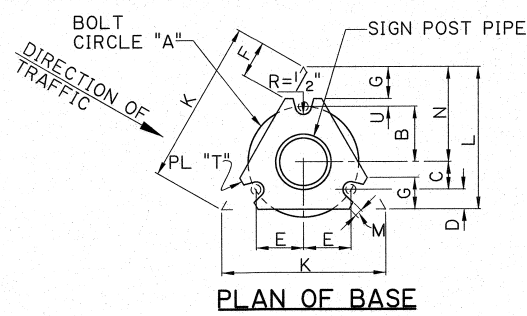
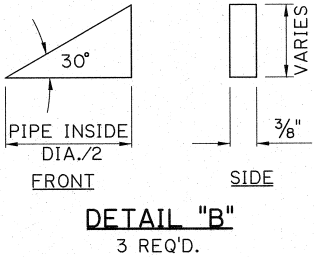
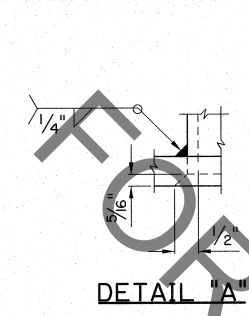
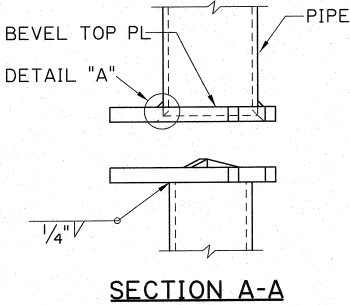
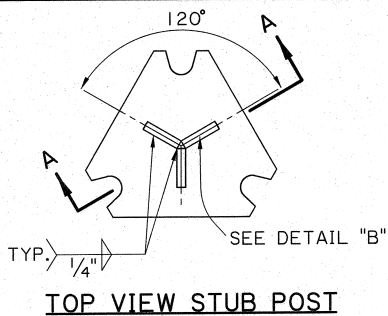
MOUNTING HEIGHT SHALL BE 7'-0" MIN. UNLESS OTHERWISE NOTED ON THE SIGN SUMMARY SHEET. CHEVRON SIGNS (W1-8) MAY BE INSTALLED AT 4'-0" OR HIGHER.

W POST SECTIONS FOR DOUBLE & TRIPLE POST MOUNTINGS											
PL	STEEL	PL	STEEL	PL	STEEL	PL	STEEL	PL	STEEL	PL	STEEL
L	H	27	20	L	H	27	20	L	H	27	20
5	1	1	1	12	5	2	1	16	15	4	4
5	2	1	1	12	6	2	2	16	16	4	4
5	3	1	1	12	7	2	2	17	4	2	2
5	4	1	1	12	8	2	2	17	5	2	2
5	5	1	1	12	9	2	2	17	6	2	2
5	6	1	1	12	10	2	2	17	7	3	2
6	1	1	1	12	11	3	2	17	8	3	2
6	2	1	1	12	12	3	2	17	9	3	3
6	3	1	1	12	13	3	3	17	10	3	3
6	4	1	1	13	3	1	1	17	11	4	3
6	5	1	1	13	4	1	1	17	12	4	3
6	6	1	1	13	5	2	1	17	13	3	3
6	7	1	1	13	6	2	2	17	14	3	3
7	2	1	1	13	7	2	2	17	15	4	3
7	3	1	1	13	8	2	2	17	16	4	3
7	4	1	1	13	9	2	2	18	3	2	1
7	5	1	1	13	10	3	2	18	4	2	2
7	6	1	1	13	11	3	2	18	5	2	2
7	7	1	1	13	12	3	3	18	6	2	2
7	8	1	1	13	13	3	3	18	7	3	2
8	2	1	1	13	14	4	3	18	8	3	2
8	3	1	1	14	3	1	1	18	9	3	3
8	4	1	1	14	4	2	1	18	10	3	3
8	5	1	1	14	5	2	2	18	11	4	3
8	6	1	1	14	6	2	2	18	12	4	3
8	7	1	1	14	7	2	2	18	13	3	3
8	8	2	1	14	8	2	2	18	14	4	3
8	9	2	1	14	9	3	2	18	15	4	3
9	2	1	1	14	10	3	2	18	16	4	3
9	3	1	1	14	11	3	3	19	3	2	1
9	4	1	1	14	12	3	3	19	4	2	2
9	5	1	1	14	13	4	3	19	5	2	2
9	6	1	1	14	14	4	3	19	6	2	2
9	7	2	1	14	15	4	3	19	7	3	2
9	8	2	1	15	3	1	1	19	8	3	3
9	9	2	2	15	4	2	1	19	9	3	3
9	10	2	2	15	5	2	2	19	10	4	3
10	2	1	1	15	6	2	2	19	11	4	3
10	3	1	1	15	7	2	2	19	12	4	4
10	4	1	1	15	8	3	2	19	13	4	3
10	5	1	1	15	9	3	2	19	14	4	3
10	6	2	1	15	10	3	3	19	15	4	3
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10	8	2	2	15	12	3	3	20	4	2	2
10	9	2	2	15	13	4	3	20	5	2	2
10	10	2	2	15	14	4	3	20	6	3	2
10	11	2	2	15	15	4	4	20	7	3	2
11	2	1	1	15	16	4	4	20	8	3	3
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11	10	2	2	16	10	3	3	20	16	4	4
11	11	3	2	16	11	3	3	21	4	2	2
11	12	3	2	16	12	4	3	21	5	2	2
12	3	1	1	16	13	4	3	21	6	3	2
12	4	1	1	16	14	4	3	21	7	3	3

W SECTIONS	
NO.	STEEL
1	W6x12
2	W8x18
3	W8x24
4	W10x33
5	W12x40
6	W12x45



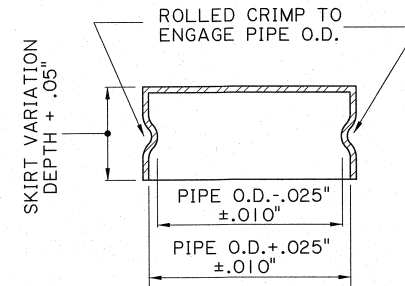
REAR ELEVATION OF MULTI - POST MOUNTING



FOR 2 1/2"Ø (STEEL) POST SECTIONS, FOOTING DIAMETER SHALL BE 1'-0"

FOOTING DETAIL
PIPE SECTIONS

FOOTING DATA			
POST DIA.	STUB L	FOOTING L	CU.YD. CONC.
2 1/2"	36"	36"	0.09
3 1/2"	36"	36"	0.20
5"	48"	48"	0.26



FRICTION CAP DETAIL
USED AT TOP OF ALL POSTS

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

SPECIAL CARE SHALL BE TAKEN TO SET THE BASE PLUM TO AVOID EXCESSIVE SHIMMING AT THE BREAK-AWAY FEATURE AFTER FINAL INSTALLATION. EXCESSIVE SHIMMING COULD IMPAIR THE BREAK-AWAY FEATURE FOR WHICH THIS INSTALLATION WAS DESIGNED.

1. BASE SHALL BE ALIGNED AND SET PLUM BEFORE OR IMMEDIATELY AFTER POURING CONCRETE FOOTING.
2. H.S. BOLTS IN BASE PLATE SHALL BE TIGHTENED TO THE PRESCRIBED TORQUE. CARE SHALL BE TAKEN TO AVOID OVERTIGHTING.

FRICTION CAPS:

CAPS MAY BE MANUFACTURED FROM EITHER HOT ROLLED OR COLD ROLLED STEEL SHEETS. FOR PIPE SIZES 3 1/2" AND SMALLER THE MINIMUM SHEET METAL THICKNESS SHALL BE 24 GAUGE. THE RIM EDGES SHALL BE REASONABLY STRAIGHT AND SMOOTH. CAPS SHALL BE SIZED AND FORMED IN SUCH A MANNER AS TO PRODUCE A DRIVE-ON FRICTION FIT AND HAVE NO TENDENCY TO ROCK WHEN SEATED ON THE PIPE. THE DEPTH SHALL BE SUFFICIENT TO GIVE POSITIVE PROTECTION AGAINST ENTRANCE OF RAINWATER. THEY SHALL BE FREE OF SHARP CREASES OR INDENTATIONS AND SHOW NO EVIDENCE OF METAL FRACTURE. CAPS SHALL HAVE A ELECTRODEPOSITED COATING OF ZINC IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. SPECIFICATION B633 SC4, TYPE 1.

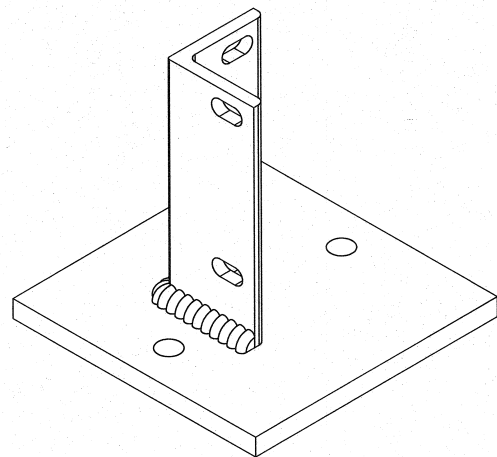
THIS SHEET TO BE USED WITH WIND LOAD MAP AND GENERAL NOTE SHEET.

MULTI-DIRECTIONAL BASE
SINGLE STEEL POST ONLY

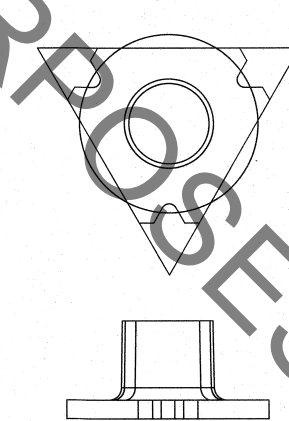
** IF MAX. STUB PROJECTION IS EXCEEDED, CONTRACTOR SHALL REMOVE AND REINSTALL PAD AS DIRECTED BY THE PROJECT ENGINEER AT NO COST TO THE DEPARTMENT.

STEEL MULTI-DIRECTIONAL BASE CONNECTION DATA																
NOMINAL PIPE SIZE	BOLT SIZE Ø & TORQUE	WELD SIZE	T	Y	A	B	C	D	E	F	G	K	L	M	N	U
2 1/2" OR 3 1/2" DIA.	5/8" T=226	3/8"	5/8"	7"	7"	3 1/2"	1 3/4"	1 1/4"	3"	2 5/8"	2"	10 3/8"	9"	1/2"	6"	1/2"

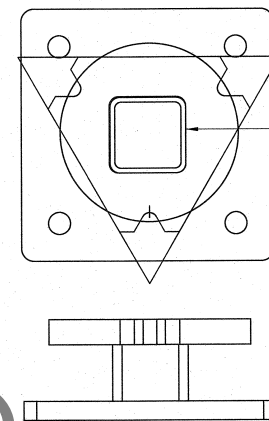
FOR STUB POST LENGTH & FOOTING DIMENSION SEE TABLE BELOW AND FOOTING DETAIL.
Ø TORQUE IN INCH-LBS., BOLTS ARE HIGH STRENGTH



SURFACE MOUNT FOR MILE MARKERS
(SQUARE TUBE ONLY)



TYPICAL TOP ASSEMBLY



TYPICAL BOTTOM ASSEMBLY

CONCRETE SURFACE MOUNT

ANY SHAPE AND SIZE ALLOWED FOR CENTER CONNECTION

SHEET NUMBER

DESIGN

CHECK

DETAIL

REVIEW

PARISH

CONTROL SECTION

STATE PROJECT

K. BRAUNER

C. GUIDRY

K. BRAUNER

C. GUIDRY

C. BOURGEOIS

18 OF 17

STATE OF LOUISIANA

KURT M. BRAUNER

License No. 30567

PROFESSIONAL ENGINEER

IN

CIVIL ENGINEERING

6/24/22

APPROVED BY CHIEF ENGINEER

DATE

7/1/2022

STATE OF LOUISIANA

ROADSIDE MOUNTED SIGN DETAILS

(TYPE A & B SIGNS)

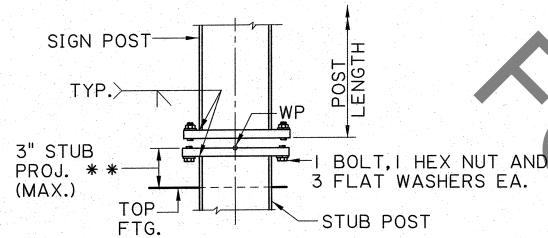
STANDARD PLAN

ROADSIDE SIGNING STANDARDS

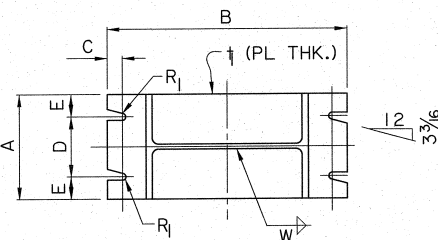
DOTD

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN



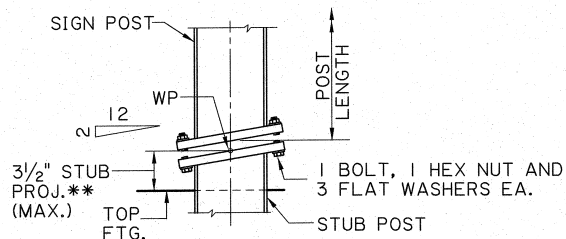
ELEVATION OF HORIZONTAL CONNECTION W SECTION



PLAN BASE PLATE AND POST

ADD 1/2" FOR BEVELED BASE PLATES

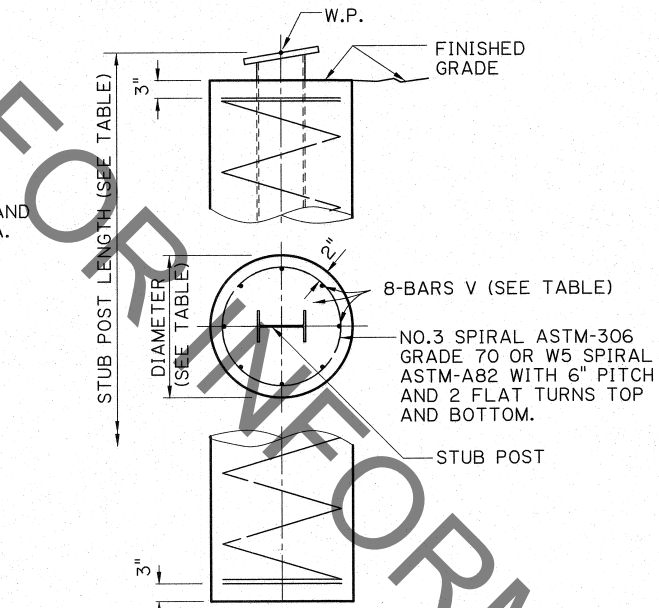
DIRECTION OF HIGHEST SPEED TRAFFIC →



ELEVATION OF BEVELED CONNECTION W SECTION

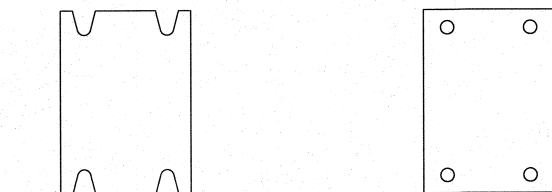
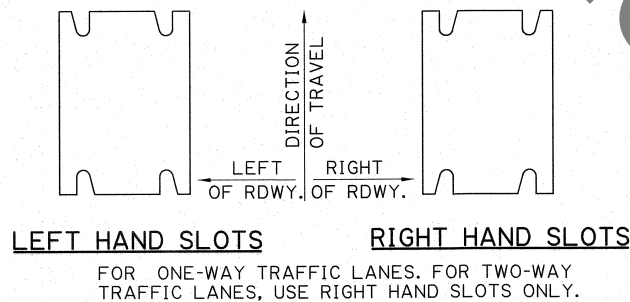
TO BE USED ON ALL MULTI-POST SIGNS WITH DISTANCE BETWEEN POSTS 7'-0" ϕ TO ϕ OR LESS.

** IF MAX. STUB PROJECTION IS EXCEEDED, CONTRACTOR SHALL REMOVE AND REINSTALL PAD AS DIRECTED BY THE PROJECT ENGINEER AT NO COST TO THE DEPARTMENT.

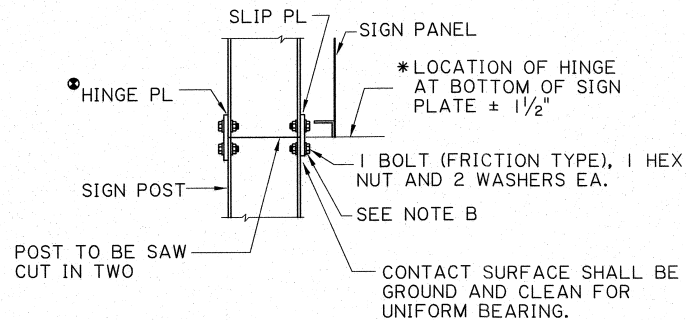


CONCRETE FOOTING DETAIL W SECTION

NOTE:
NO REINFORCING STEEL IS REQUIRED FOR 'S' SECTION.



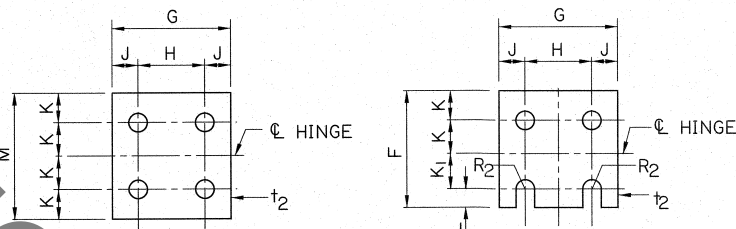
ORIENTATION AND USE OF SLOTS AND HOLES



SLIP PLATE CONNECTION DETAIL

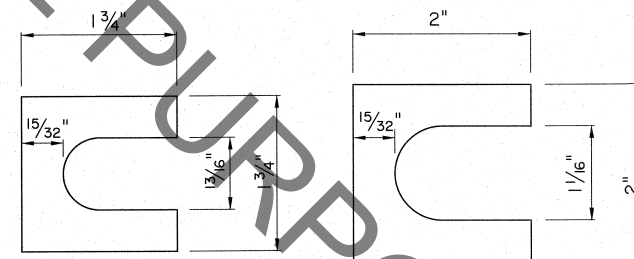
• WHEN SIGN IS LOCATED ON SIDE OF ROADWAY WITH TWO WAY TRAFFIC, A SLIP PLATE WILL BE USED ON BOTH SIDES OF THE POST IN LIEU OF THE HINGE PLATE SHOWN

* FOR EXTRUSION SIGN PANEL ALTERNATE, LOCATION OF ϕ HINGE SHALL BE 3 1/2" FROM BOTTOM OF SIGN PANEL.



HINGE PLATE DETAIL

SLIP PLATE DETAIL
BOLT HOLE DIAMETERS TO BE EQUAL TO BOLT DIA. + 1/16" IN POST FLANGE AND SLIP PLATE.



*** SHIM DETAIL**

BOLTS UP TO 3/4" ϕ BOLTS

*** SHIM DETAIL**

BOLTS UP TO 1" ϕ BOLTS

* FURNISH 2 SHIMS 0.012" \pm THICK AND 2 SHIMS 0.032" \pm THICK PER POST. SHIMS SHALL BE BRASS CONFORMING TO A.S.T.M. SPEC. B-36 AND BE USED AS DIRECTED BY THE PROJECT ENGINEER.

SLIP PLATE CONNECTION NOTES:

1. POST SHALL BE SAW CUT OR TORCH CUT PRIOR TO GALVANIZING.
2. SLIP PLATE SHALL BE INSTALLED WITH H.S. BOLTS AT MINIMUM BOLT TENSION.
3. TIGHTING SHALL BE OBTAINED BY
(a) TURN OF NUT METHOD; OR
(b) DIRECT TENSION INDICATOR METHOD USING LOAD INDICATOR WASHER. SEE NOTE A.
4. TIGHTING SHALL BE TO SUCH A DEGREE AS TO OBTAIN MINIMUM BOLT TENSION AS SPECIFIED IN STANDARD SPECIFICATIONS SUBSECTION 807.05, CURRENT AT TIME OF FABRICATION.
5. TIGHTEN BOLTS IN A SYSTEMATIC ORDER TO THE PRESCRIBED MINIMUM BOLT TENSION.

NOTE A:

WHEN HIGH STRENGTH BOLT IS TIGHTENED BY USE OF A DIRECT TENSION INDICATOR, THE INSTALLATION AND INSPECTION SHALL BE IN ACCORDANCE WITH SPECIFICATION FOR STRUCTURAL JOINTS, SECTION 5 AND 6 FOR ASTM A-325 BOLTS APPROVED BY THE RESEARCH COUNCIL ON RIVETED AND BOLTED STRUCTURAL JOINTS. FOR DETAILED INSTALLATION AND INSPECTION PROCEDURES FOLLOWED MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL BE REQUIRED TO SUBMIT BROCHURES TO THE BRIDGE DESIGN ENGINEER FOR APPROVAL.

NOTE B:

WHEN HIGH STRENGTH BOLT IS TIGHTENED BY USE OF A DIRECT TENSION INDICATOR METHOD, THE WASHER UNDER THE BOLT HEAD SHALL BE A LOAD INDICATOR WASHER.

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

SPECIAL CARE SHALL BE TAKEN TO SET THE BASE PLUMB TO AVOID EXCESSIVE SHIMMING AT THE BREAK-AWAY FEATURE AFTER FINAL INSTALLATION. EXCESSIVE SHIMMING COULD IMPAIR THE BREAK-AWAY FEATURE FOR WHICH THIS INSTALLATION WAS DESIGNED. SHIM PACKS SHOWN ON THIS DRAWING SHOULD BE SUFFICIENT TO ALLOW FOR NORMAL MISALIGNMENT.

1. BASE SHALL BE ALIGNED AND SET PLUMB BEFORE OR IMMEDIATELY AFTER POURING CONCRETE FOOTING.
2. H.S. BOLTS IN BASE PLATE SHALL BE TIGHTENED TO THE PRESCRIBED TORQUE. CARE SHALL BE TAKEN TO AVOID OVERTIGHTING.

SECTION	DIMENSION (INCH)	BASE CONNECTION DATA									SLIP PLATE & HINGE PLATE DATA											FOOTING DATA				
		BOLT SIZE & TORQUE LIMITS	A	B	C	D	E	t ₁	R	W	W (ALT.) SEE NOTE	F	G	H	J	K	K ₁	L	M	t ₂	R ₂	H.S. BOLT DIA.	STUB LTH.	FTG. DIA.	LTH. OF FTG.	BARS V SIZE
W6x12	5/8"Ø T= 226-345	4	10	3/4	2	1	1 1/2	11/32	5/16	5/16	3 5/8	4	2 1/4	7/8	1	1 1/4	5/8	4 1/4	3/8	9/32	1/2	24	24	48	#5	0.46
W8x18		5 1/4	12	3/4	3	1 1/8	1 1/2	11/32	5/16	5/16	4 1/8	5 1/4	2 3/4	1 1/4	1 1/8	1 3/8	3/4	4 3/4	1/2	11/32	5/8	24	24	60	#6	0.58
W8x24	3/4"Ø T= 369-554	6 1/2	12 1/2	7/8	3 1/4	1 5/8	1 3/4	13/32	3/8	7/16	4 1/8	6 1/2	3 1/2	1 1/2	1 1/8	1 3/8	3/4	4 3/4	1/2	11/32	5/8	30	24	72	#7	0.70
W10x33	1"Ø T= 460-735	8	15 1/2	1 1/4	4 1/2	1 3/4	2	17/32	3/8	7/16	4 5/8	8	5 1/2	1 1/4	1 1/4	1 1/2	7/8	5 1/4	5/8	13/32	3/4	30	24	96	#9	0.93
W12x40		8	17 1/2	1 1/4	4 1/2	1 3/4	2	17/32	3/8	7/16	4 5/8	8	5 1/2	1 1/4	1 1/4	1 1/2	7/8	5 1/4	5/8	13/32	3/4	36	24	120	#10	1.16
W12x45		10	17 1/2	1 1/4	6	2	2	17/32	3/8	7/16	5 1/2	10	5 1/2	2 1/4	1 1/2	1 3/4	1	6 1/4	3/4	1 1/2	7/8	36	36	96	#9	2.09

* BASE PLATE TO POST WELD ALTERNATE (AS AN ALTERNATE TO WELDS SHOWN IN DETAILS, THE POST MEMBERS TABULATED MAY BE WELDED ALL AROUND WITH A FILLET WELD W(ALT.)) ALL BOLTS SHALL HAVE A MINIMUM OF 3 THREADS BEYOND THE NUT. BOLT TORQUE LIMITS ARE IN INCH POUNDS. (THE HIGH STRENGTH BOLTS AT THE BASE CONNECTION SHOULD BE TORQUED WITHIN THE LIMITS SPECIFIED, HOWEVER, THE LOWER LIMIT IS DESIRABLE). FOR NON-BREAKAWAY USE TORQUE LIMITS GIVEN IN THE STANDARD SPECIFICATIONS



APPROVED BY CHIEF ENGINEER:

DATE: 7/1/2022



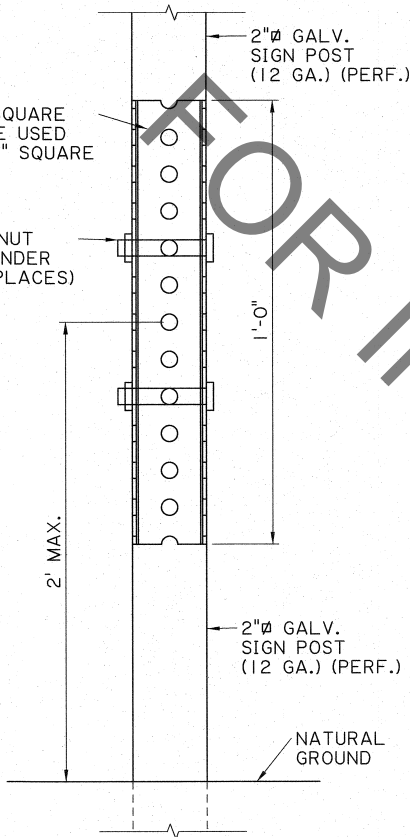
ROADSIDE MOUNTED SIGN DETAILS
(TYPE D SIGNS)

ROADSIDE SIGNING STANDARDS

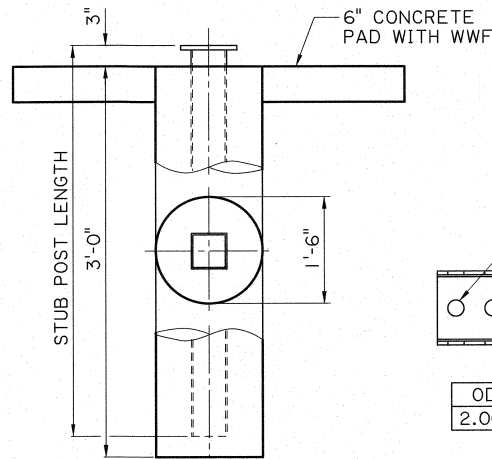


1 3/4" (12 GA.) PERF. SQUARE TUBING, GALV., TO BE USED AS SPLICE "INSIDE" 2" SQUARE TUBING POST

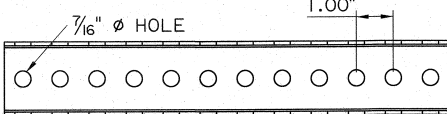
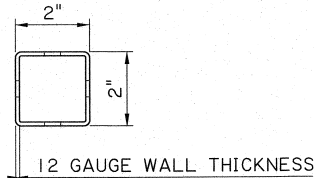
3/8" Ø 3" BOLT & NUT WITH WASHERS UNDER HEAD & NUT (4 PLACES)



SPLICE JOINT FOR SIGN 2" POST



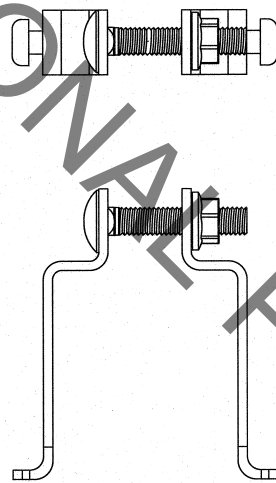
FOOTING DETAIL SQ. TUBE SECTIONS



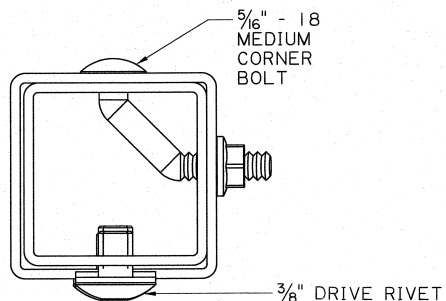
OD	GAUGE	WALL	WEIGHT PER FOOT
2.00"	12GA	0.105"	2.459#

2" SQUARE TUBING

SIGN CLAMP FOR SQUARE POSTS
7/8" WIDE X 1 1/4" TYPE 304, #2B FINISHED STAINLESS STEEL INCLUDES 3/8" - 16 X 2" CARRIAGE BOLT AND CASE HARDENED FLANGE NUT.



DIRECTION OF TRAFFIC



SECTION A-A

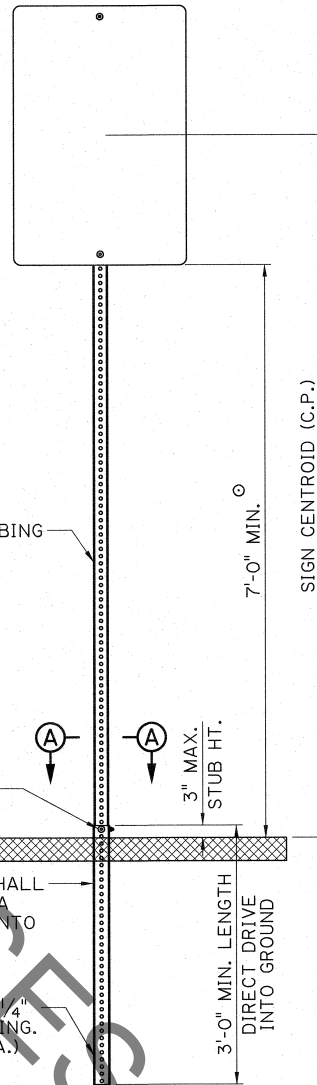
2" x 2" SQ. TUBING (12 GA.)

CORNER BOLT AND RIVET REQ'D.

2" TUBING SHALL TELESCOPE A MIN. OF 8" INTO 2 1/4" TUBING.

2 1/4" x 2 1/4" SQ. TUBING (12 GA.)

HARD SOIL LOCATIONS



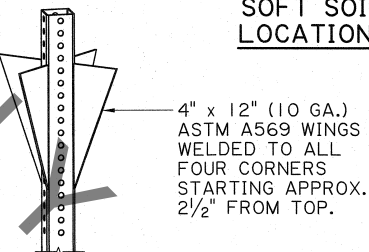
2" x 2" SQ. TUBING (12 GA.)

CORNER BOLT AND RIVET REQ'D.

2" TUBING SHALL TELESCOPE A MIN. OF 8" INTO 2 1/4" TUBING OF OMNI-DIRECTIONAL ANCHOR

2 1/4" x 2 1/4" SQ. TUBING (12 GA.)

SOFT SOIL LOCATIONS



OMNI-DIRECTIONAL ANCHOR

NOTES:

SEE SECTION 1015.02 IN THE STANDARD SPECIFICATIONS FOR INFORMATION RELATED TO THE ALLOWABLE MATERIALS.

SIGNS MOUNTED TO SINGLE SQUARE TUBE POSTS DO NOT REQUIRE STIFFENERS UNLESS THE SIGN HAS AT LEAST ONE SIDE GREATER THAN 36" LONG.

FOR DUAL POSTS, LOCATE POSTS AT 58% SPACING FROM CENTER OF SIGN, OR 21% FROM EACH EDGE OF SIGN. USE STIFFENERS ON BACK OF SIGNS MOUNTED ON DUAL POSTS.

SIGNS MAY BE MOUNTED BACK TO BACK ON THE POST.

○ MOUNTING HEIGHT SHALL BE 7'-0" MIN. UNLESS OTHERWISE NOTED ON THE SIGN SUMMARY SHEET. CHEVRON SIGNS (W1-8) MAY BE INSTALLED AT 4'-0" OR HIGHER.

SIGN CENTROID (CP)	ALLOWABLE SIGN AREA (FT²)			
	70 MPH + 30% GUST		80 MPH + 30% GUST	
	SINGLE POST (2" x 12GA PERF.)	DOUBLE POST (2" x 12GA PERF.)	SINGLE POST (2" x 12GA PERF.)	DOUBLE POST (2" x 12GA PERF.)
14'	3.99	7.98	2.99	5.97
13.5'	4.14	8.28	3.10	6.19
13'	4.30	8.59	3.21	6.43
12.5'	4.47	8.93	3.34	6.68
12'	4.65	9.30	3.48	6.96
11.5'	4.85	9.70	3.63	7.26
11'	5.07	10.14	3.79	7.59
10.5'	5.31	10.62	3.97	7.95
10'	5.57	11.15	4.17	8.34
9.5'	5.86	11.73	4.39	8.77
9'	6.19	12.37	4.63	9.26
8.5'	6.55	13.09	4.90	9.79
8'	6.95	13.90	5.20	10.40
7.5'	7.41	14.81	5.54	11.08
7'	7.93	15.86	5.93	11.86

SHEET NUMBER

DESIGN

CHECK

DETAIL

REVIEW

SERIES #

10 OF 17

PARISH

CONTROL SECTION

STATE PROJECT

K. BRAUNER

C. GUIDRY

K. BRAUNER

C. GUIDRY

C. BOURGEOIS

STATE OF LOUISIANA

KURT M. BRAUNER

License No. 30567

PROFESSIONAL ENGINEER

IN

CIVIL ENGINEERING

7/21/22

6/24/22

APPROVED BY CHIEF ENGINEER:

1/1/2022

DATE

STATE OF LOUISIANA

SEAL

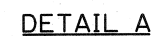
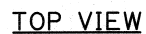
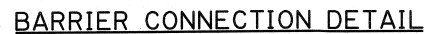
SQUARE TUBE SIGN DETAILS

ROADSIDE SIGNING STANDARDS

DOTD

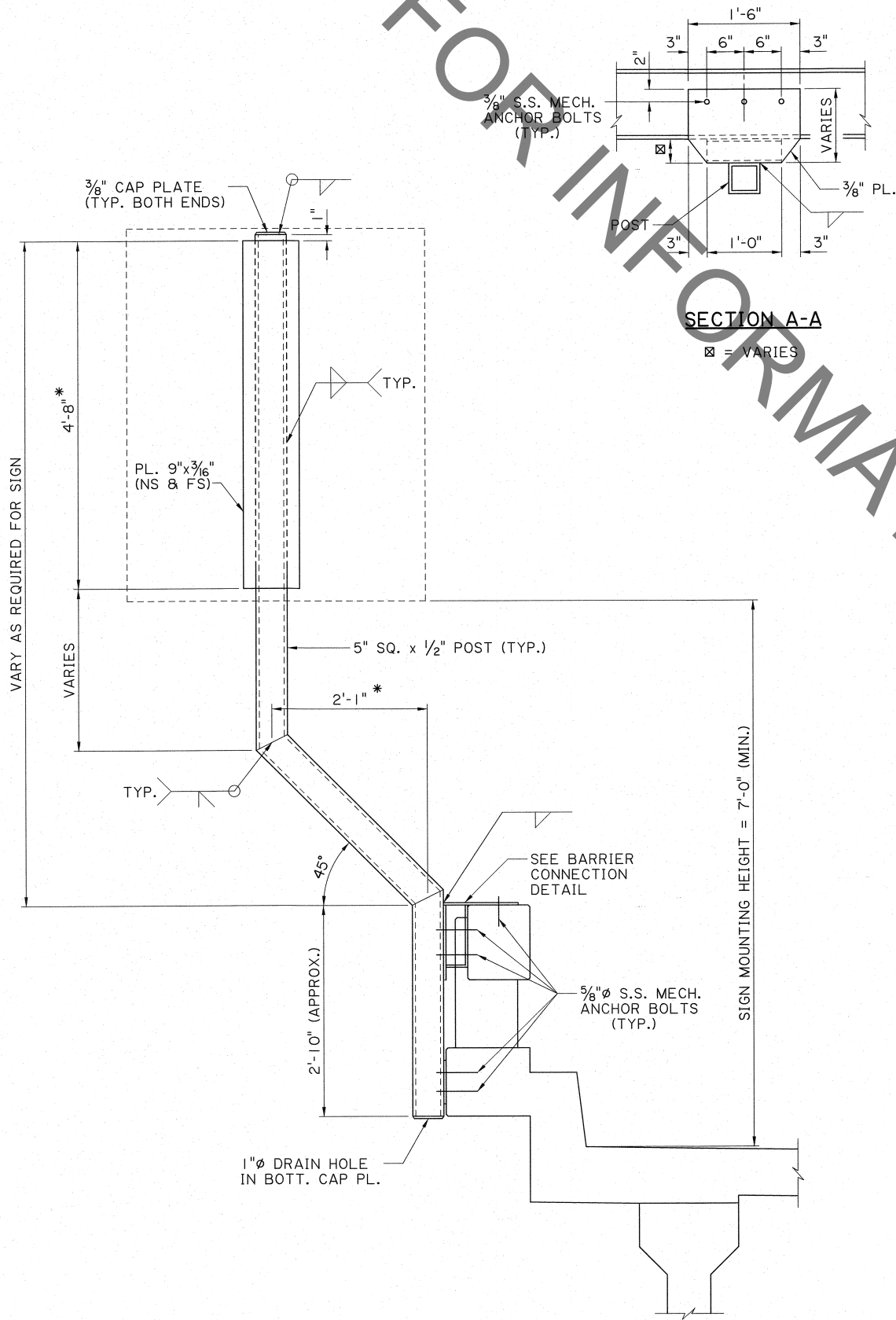
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN



MAX SIGN AREA = 40 SQFT.

[illegible]

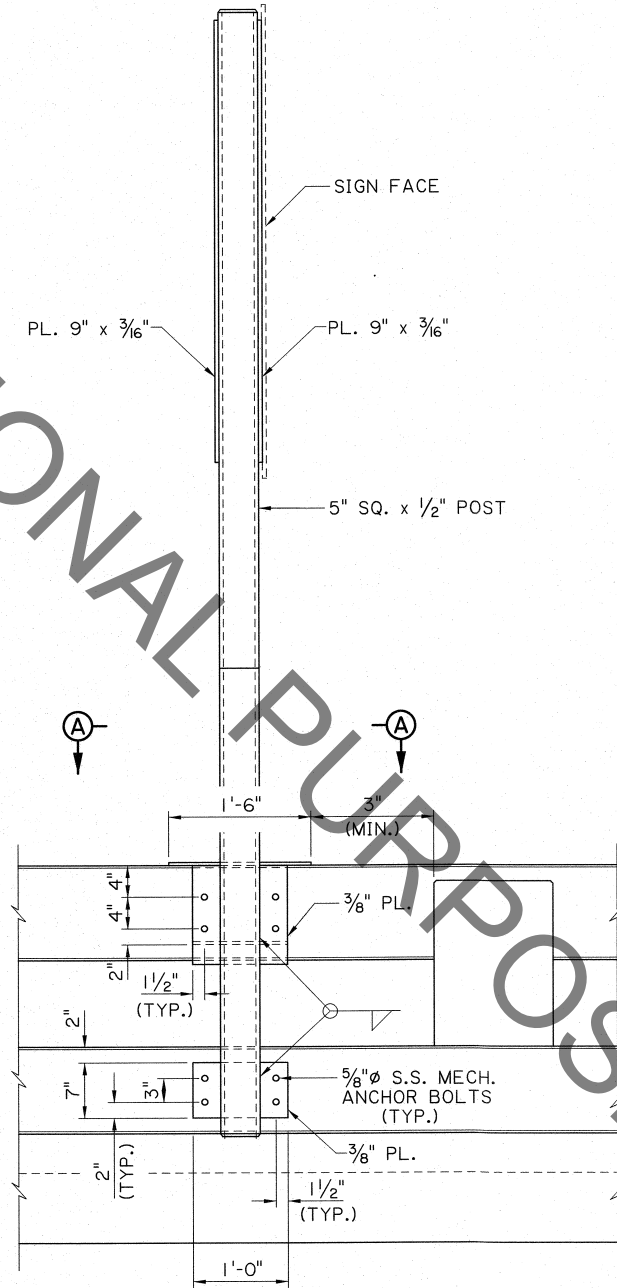


OFFSET SIGN SUPPORT

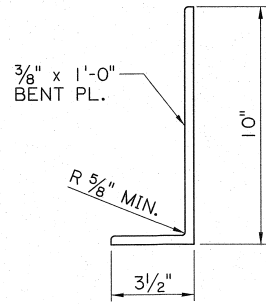
* DIMENSIONS ARE BASED ON A 5 FT. x 4 FT. SIGN.
ADJUST AS NEEDED FOR DIFFERENT SIGN SIZES.

SECTION A-A

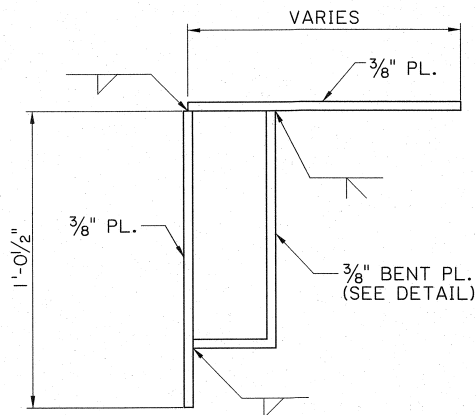
Ø = VARIES



OUTSIDE ELEVATION SHOWING BARRIER



3/8" BENT PL. DETAIL



BARRIER CONNECTION DETAIL

NOTES:

STRUCTURAL MEMBERS SHALL BE AASHTO M270 GRADE 50 STEEL AND SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123.

MECHANICAL ANCHOR BOLTS SHALL BE 5/8"Ø STAINLESS STEEL (MIN. FY = 55 ksi) AND SHALL BE SELECTED FROM THE A.M.L. AND INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS. EACH ANCHOR SHALL HAVE AN ALLOWABLE CAPACITY OF 3 KIPS PULLOUT AND 3 KIPS SHEAR AFTER APPLICATION OF ANY REDUCTION FACTORS FOR ANCHOR SPACING AND EDGE DISTANCE.

WELDING SHALL BE IN ACCORDANCE WITH THE BRIDGE WELDING CODE OF THE AMERICAN WELDING SOCIETY (AWS D1.5-10), AND SECTION 809 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, 2016 EDITION.

NO PART OF ANY SIGN SHALL PROTRUDE INTO THE SHOULDER AREA. DIMENSIONS OF SUPPORT POST AND BRACKET SHALL BE ADJUSTED AS NEEDED PRIOR TO FABRICATION.

ANY PORTIONS OF THE EXISTING BARRIER THAT ARE DAMAGED SHALL BE REPAIRED TO THE SATISFACTION OF THE PROJECT ENGINEER.

DIMENSIONS RELATED TO THE BARRIER CONNECTION ARE BASED ON AS-BUILT DRAWINGS AND PREVIOUS STANDARDS. DIMENSIONS SHALL BE ADJUSTED AS NEEDED BASED ON FIELD MEASUREMENTS.

A 1/8" NEOPRENE PAD SHALL BE USED BETWEEN ALL STEEL AND CONCRETE CONTACT SURFACES.

MAX SIGN AREA = 20 SQFT.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
K. BRAUNER		V. TOURRES		K. BRAUNER		V. TOURRES	
DESIGN		CHECK		DETAIL		REVIEW	
K. BRAUNER		V. TOURRES		K. BRAUNER		V. TOURRES	
C. GUIDRY		13 OF 17		SERIES #		17	

STATE OF LOUISIANA

KURT M. BRAUNER

License No. 30567

PROFESSIONAL ENGINEER

IN

CIVIL ENGINEERING

7/1/2022

APPROVED BY CHIEF ENGINEER:

DATE: 7/1/2022

STATE OF LOUISIANA

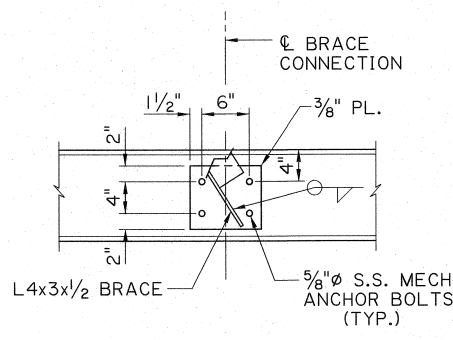
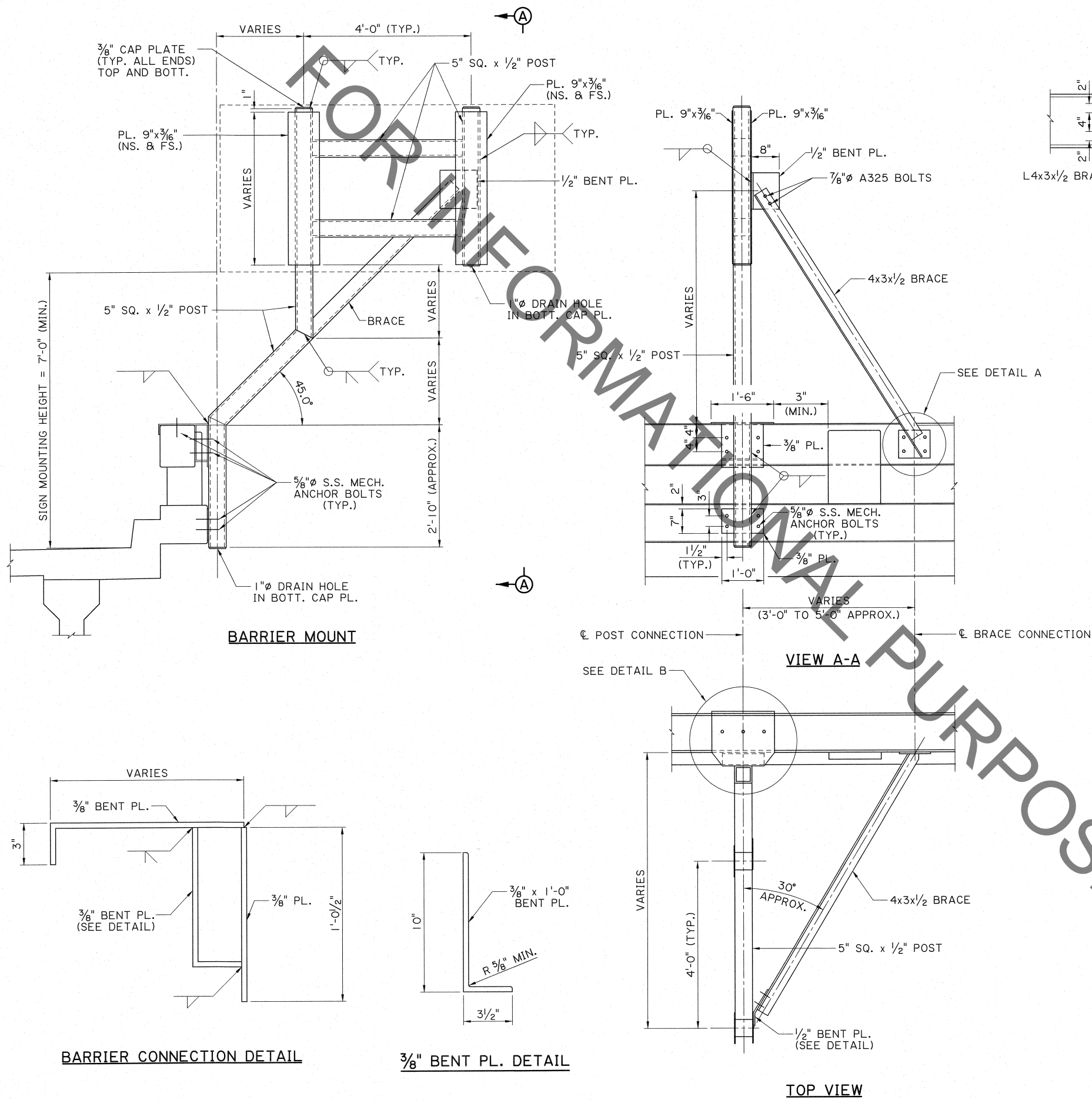
DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

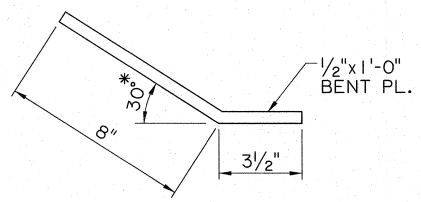
Z - BRACKET SIGN SUPPORT (POST AND RAIL BARRIER)

ROADSIDE SIGNING STANDARDS

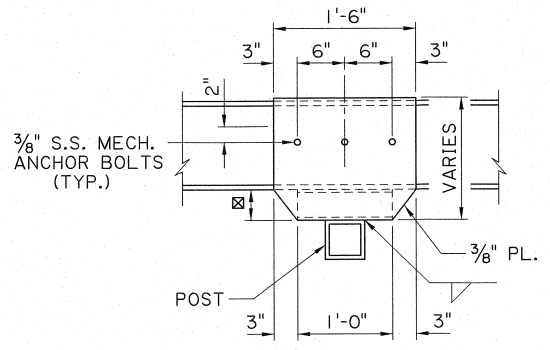
STANDARD PLAN



DETAIL A



1/2" BENT PLATE DETAIL
* ANGLE IS APPROXIMATE. VARY AS NEEDED.



DETAIL B
☒ = VARIES

NOTES:

STRUCTURAL MEMBERS SHALL BE AASHTO M270 GRADE 50 STEEL AND SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123. A325 BOLTS TO BE GALVANIZED PER ASTM A-153.

MECHANICAL ANCHOR BOLTS SHALL BE 5/8" STAINLESS STEEL (MIN. F_y = 55 ksi) AND SHALL BE SELECTED FROM THE A.M.L. AND INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS. EACH ANCHOR SHALL HAVE AN ALLOWABLE CAPACITY OF 3 KIPS PULLOUT AND 3 KIPS SHEAR AFTER APPLICATION OF ANY REDUCTION FACTORS FOR ANCHOR SPACING AND EDGE DISTANCE.

WELDING SHALL BE IN ACCORDANCE WITH THE BRIDGE WELDING CODE OF THE AMERICAN WELDING SOCIETY (AWS D1.5-10), AND SECTION 809 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, 2016 EDITION.

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A 1/8" NEOPRENE PAD SHALL BE USED BETWEEN ALL STEEL AND CONCRETE CONTACT SURFACES.

MAX SIGN AREA = 40 SQFT.

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #	DATE	PROJECT
K. BRAUNER	V. TOURRES	K. BRAUNER	V. TOURRES	C. GUIDRY	14 OF 17	6/24/22	

APPROVED BY CHIEF ENGINEER:

[Signature]

DATE: 7/1/2022

STATE OF LOUISIANA

KURT M. BRAUNER

License No. 30567

PROFESSIONAL ENGINEER

IN

CIVIL ENGINEERING

Z - BRACKET SIGN SUPPORT (POST AND RAIL BARRIER)

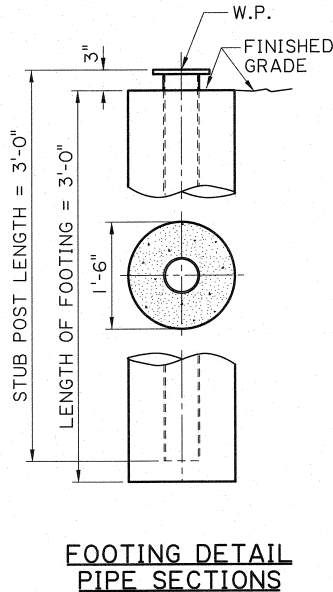
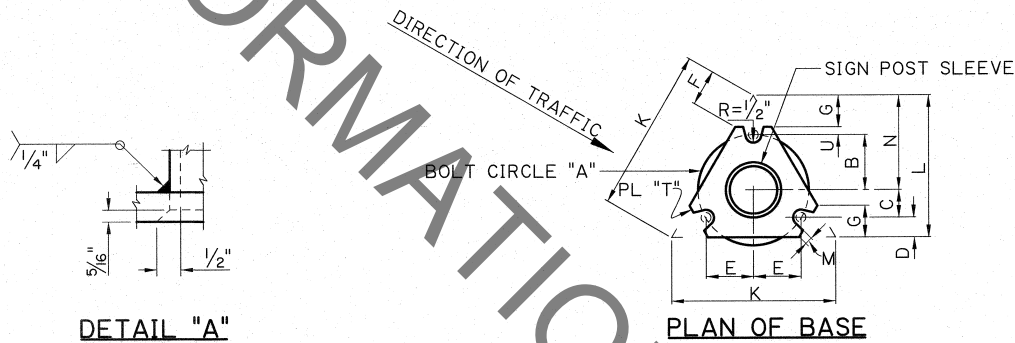
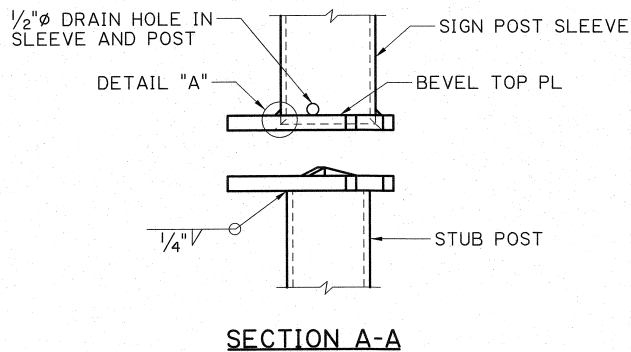
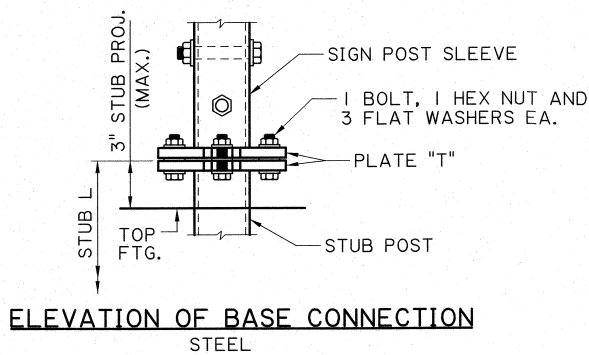
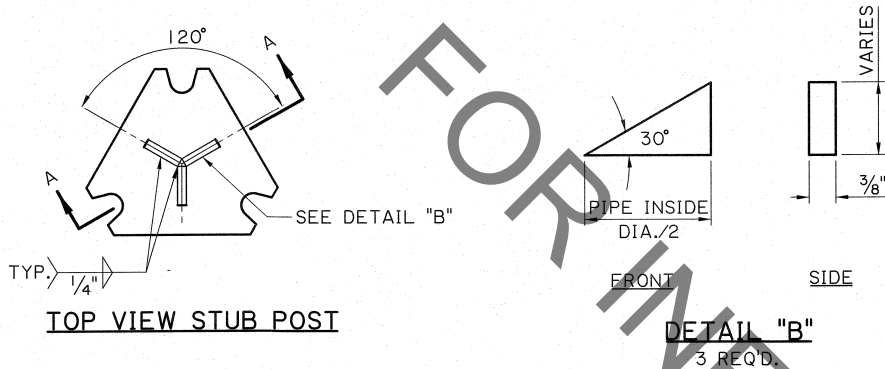
ROADSIDE SIGNING STANDARDS

STANDARD PLAN

DOTD

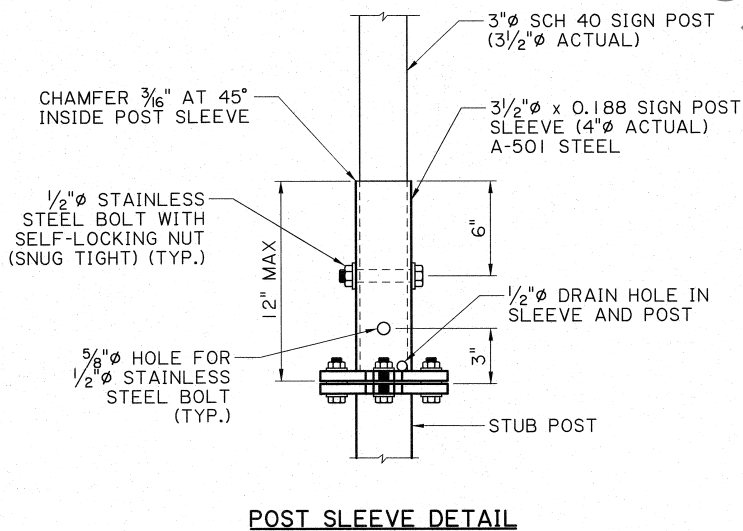
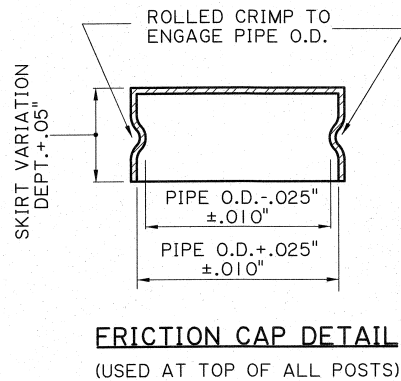
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN



STEEL MULTI-DIRECTIONAL BASE CONNECTION DATA															
NOMINAL PIPE SIZE FOR POST SLEEVE	BOLT SIZE Ø & TORQUE	WELD SIZE	T	A	B	C	D	E	F	G	K	L	M	N	U
3 1/2" Ø SCH 40	5/8" Ø T=226	3/8"	5/8"	7"	3 1/2"	1 3/4"	1 1/4"	3"	2 5/16"	2"	10 3/8"	9"	1/2"	6"	1/2"

FOR STUB POST LENGTH & FOOTING DIMENSION SEE FOOTING DETAIL.
Ø TORQUE IN INCH-LBS., BOLTS ARE HIGH STRENGTH



PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

SPECIAL CARE SHALL BE TAKEN TO SET THE BASE PLUMB TO AVOID EXCESSIVE SHIMMING AT THE BREAK-AWAY FEATURE AFTER FINAL INSTALLATION. EXCESSIVE SHIMMING COULD IMPAIR THE BREAK-AWAY FEATURE FOR WHICH THIS INSTALLATION WAS DESIGNED. SHIM PACKS SHOWN ON THIS DRAWING SHOULD BE SUFFICIENT TO ALLOW FOR NORMAL MISALIGNMENT.

1. BASE SHALL BE ALIGNED AND SET PLUMB BEFORE OR IMMEDIATELY AFTER POURING CONCRETE FOOTING.
2. H.S. BOLTS IN BASE PLATE SHALL BE TIGHTENED TO THE PRESCRIBED TORQUE. CARE SHALL BE TAKEN TO AVOID OVERTIGHTING.

FRICTION CAPS:

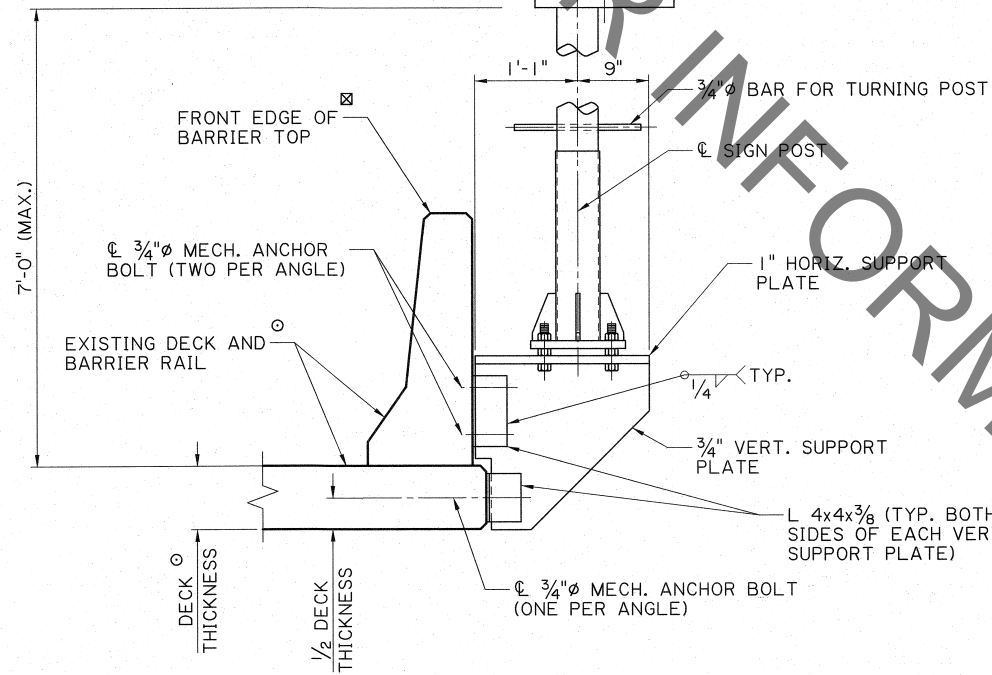
CAPS MAY BE MANUFACTURED FROM EITHER HOT ROLLED OR COLD ROLLED STEEL SHEETS. THE MINIMUM SHEET METAL THICKNESS SHALL BE 24 GAUGE. THE RIM EDGES SHALL BE REASONABLY STRAIGHT AND SMOOTH. CAPS SHALL BE SIZED AND FORMED IN SUCH A MANNER AS TO PRODUCE A DRIVE-ON FRICTION FIT AND HAVE NO TENDENCY TO ROCK WHEN SEATED ON THE PIPE. THE DEPTH SHALL BE SUFFICIENT TO GIVE POSITIVE PROTECTION AGAINST ENTRANCE OF RAINWATER. THEY SHALL BE FREE OF SHARP CREASES OR INDENTATIONS AND SHOW NO EVIDENCE OF METAL FRACTURE. CAPS SHALL HAVE A ELECTRODEPOSITED COATING OF ZINC IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. SPECIFICATION B633 SC4, TYPE 1.

GALVANIZING:

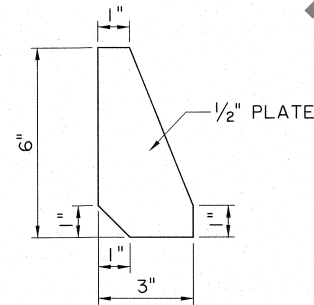
ALL STEEL POST, PLATE, AND SLEEVE MEMBERS SHALL BE GALVANIZED PER ASTM A-123.

ALL MISC. HARDWARE (EXCEPT FOR STAINLESS STEEL BOLTS) SHALL BE GALVANIZED PER ASTM A-153.

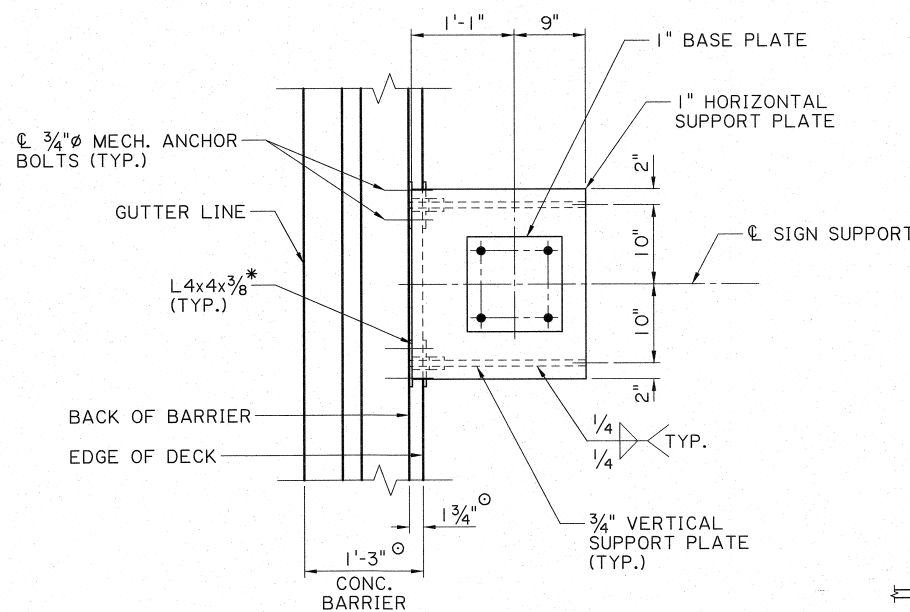
☒ SIGN MAY BE OFFSET FROM THE CENTERLINE OF POST. REGARDLESS OF ITS ORIENTATION, NO PART OF THE SIGN SHALL EXTEND BEYOND THE FRONT EDGE OF THE TOP OF BARRIER RAIL. COST OF OFFSET SIGN ATTACHMENT SHALL BE PAID FOR UNDER 729-08-00210 "MOUNTING (3/2" SIZE POST) (STRUCTURE MOUNT)".



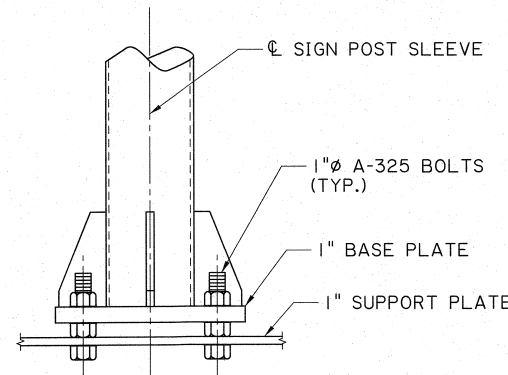
ELEVATION



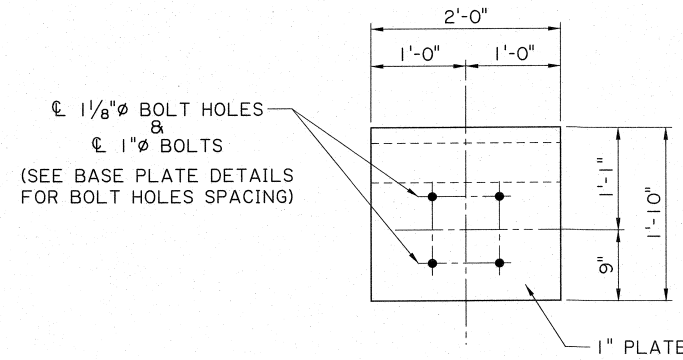
1/2" STIFFENER



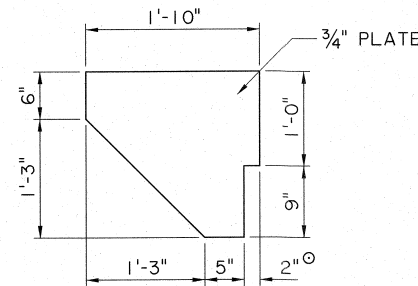
PLAN



1" BOLT DETAIL

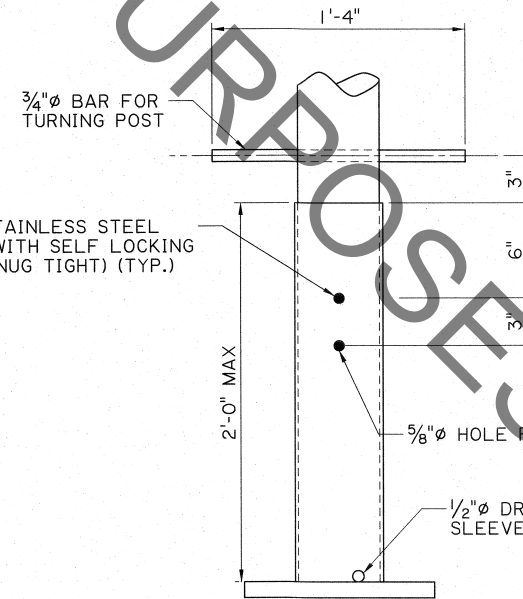


1" HORIZ. SUPPORT PLATE



3/4" VERT. SUPPORT PLATE

SIGN SUPPORT BRACKET DETAILS



5/8" BOLT DETAIL
(STIFFENERS NOT SHOWN FOR CLARITY)

NOTES:

STRUCTURAL MEMBERS SHALL BE AASHTO M270 GRADE 50 STEEL AND SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123. ALL MISC. HARDWARE (EXCEPT STAINLESS STEEL BOLTS) SHALL BE GALVANIZED AS PER ASTM A-153.

ALL EXISTING DIMENSIONS ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION. ANY ADJUSTMENTS TO SUPPORT BRACKET DIMENSIONS SHALL BE APPROVED BY THE ENGINEER.

EQUIVALENT BENT PLATES MAY BE USED. ADJUST ANGLE OF BEND AS NEEDED TO ATTACH TO BARRIER RAIL.

PAYMENT FOR THE TYPE "A" SIGN POST AND SUPPORT BRACKET SHALL BE UNDER ITEM NO. 729-08-00210, "MOUNTING (3/2" SIZE POST) (STRUCTURE MOUNT)".

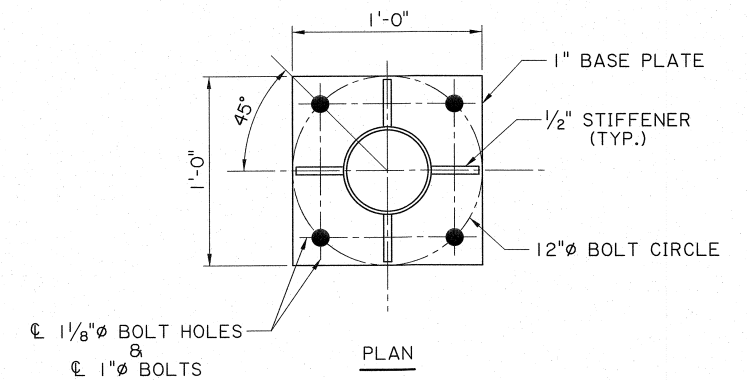
MECHANICAL ANCHOR BOLTS SHALL BE 3/4" STAINLESS STEEL (MIN. F_y = 55 ksi) AND SHALL BE SELECTED FROM THE A.M.L. AND INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS. EACH ANCHOR SHALL HAVE AN ALLOWABLE CAPACITY OF 3 KIPS PULLOUT AND 3 KIPS SHEAR AFTER APPLICATION OF ANY REDUCTION FACTORS FOR ANCHOR SPACING AND EDGE DISTANCE.

A 1/8" NEOPRENE PAD SHALL BE USED BETWEEN ALL STEEL AND CONCRETE CONTACT SURFACES.

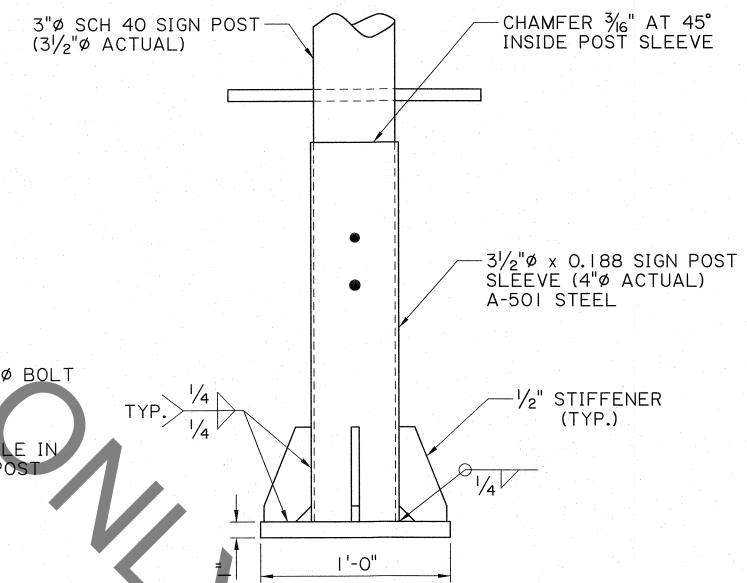
ANY PORTIONS OF THE EXISTING BARRIER THAT ARE DAMAGED SHALL BE REPAIRED TO THE SATISFACTION OF THE PROJECT ENGINEER.

REGARDLESS OF ITS ORIENTATION, NO PART OF ANY SIGN SHALL EXTEND BEYOND THE FRONT EDGE OF THE TOP OF BARRIER RAIL. DIMENSIONS OF SUPPORT POST AND BRACKET SHALL BE ADJUSTED AS NEEDED PRIOR TO FABRICATION.

MAXIMUM ALLOWABLE SIGN AREA = 20 SQ. FT.



PLAN



ELEVATION

1" BASE PLATE & SIGN POST SLEEVE DETAILS

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
K. BRAUNER		C. GUIDRY		K. BRAUNER		C. GUIDRY	
DESIGN		CHECK		DETAIL		REVIEW	
K. BRAUNER		C. GUIDRY		K. BRAUNER		C. GUIDRY	
16 OF 17		16 OF 17		16 OF 17		16 OF 17	

STATE OF LOUISIANA

KURT M. BRAUNER

License No. 30567

PROFESSIONAL ENGINEER

CIVIL ENGINEERING

7/1/2022

APPROVED BY CHIEF ENGINEER

CONTRAFLOW SIGNS (F - SHAPE BARRIER)

ROADSIDE SIGNING STANDARDS

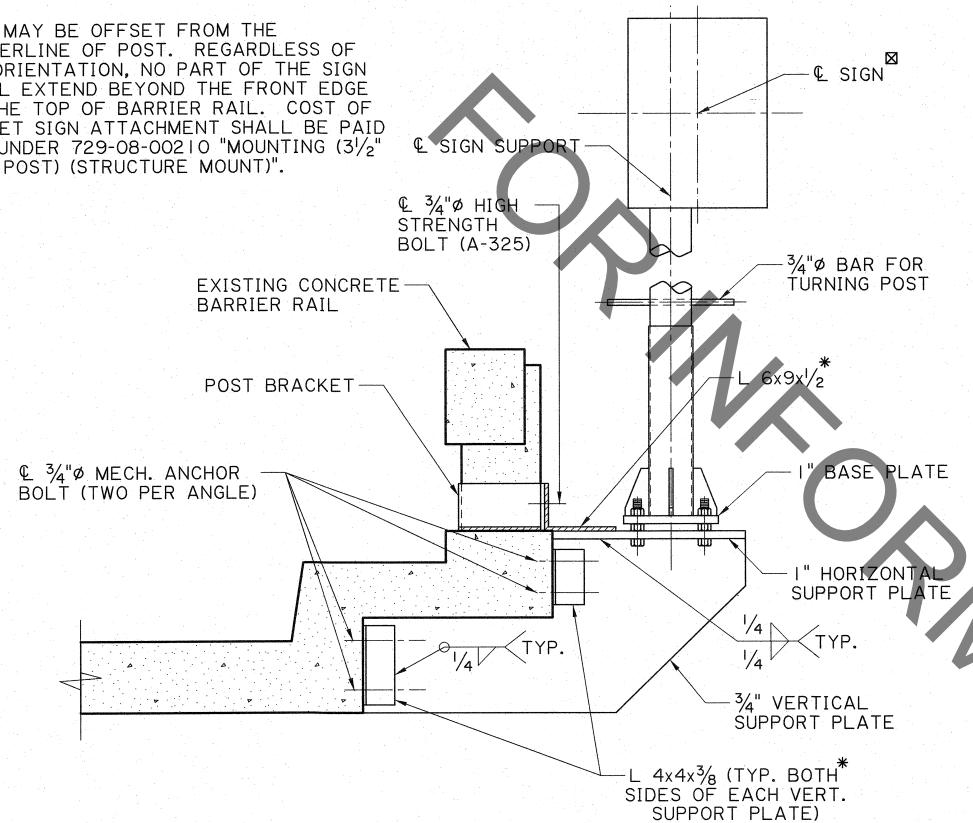
STANDARD PLAN

DOTD

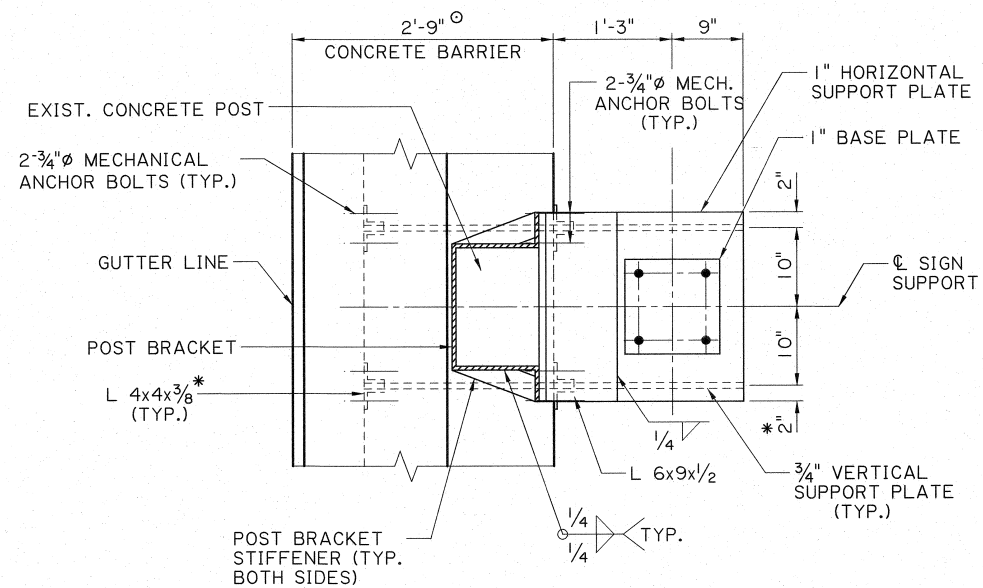
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

BRIDGE AND STRUCTURAL DESIGN

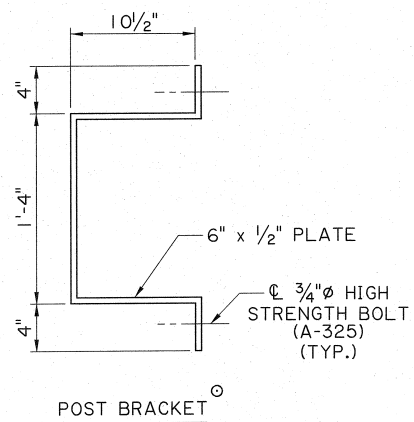
⊠ SIGN MAY BE OFFSET FROM THE CENTERLINE OF POST. REGARDLESS OF ITS ORIENTATION, NO PART OF THE SIGN SHALL EXTEND BEYOND THE FRONT EDGE OF THE TOP OF BARRIER RAIL. COST OF OFFSET SIGN ATTACHMENT SHALL BE PAID FOR UNDER 729-08-00210 "MOUNTING (3/2" SIZE POST) (STRUCTURE MOUNT)".



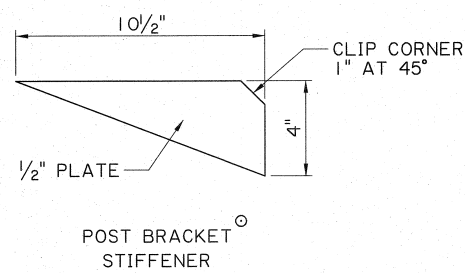
ELEVATION



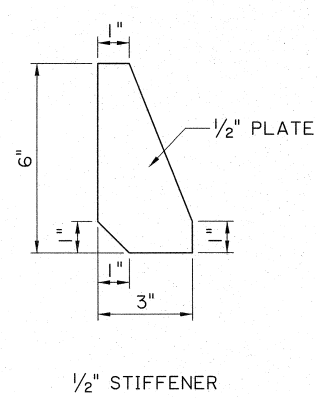
PLAN



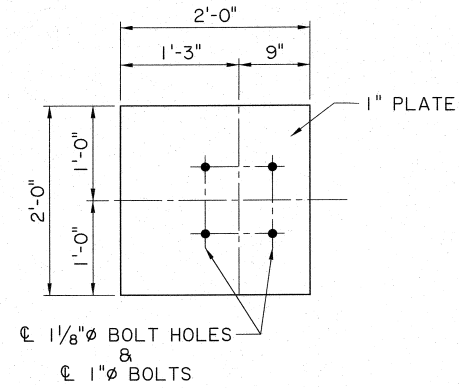
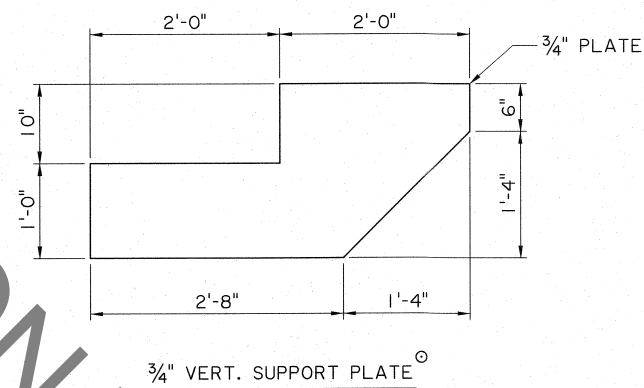
POST BRACKET



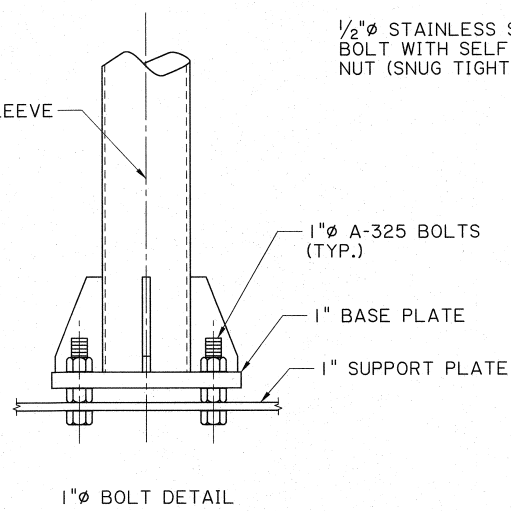
POST BRACKET STIFFENER



1/2" STIFFENER

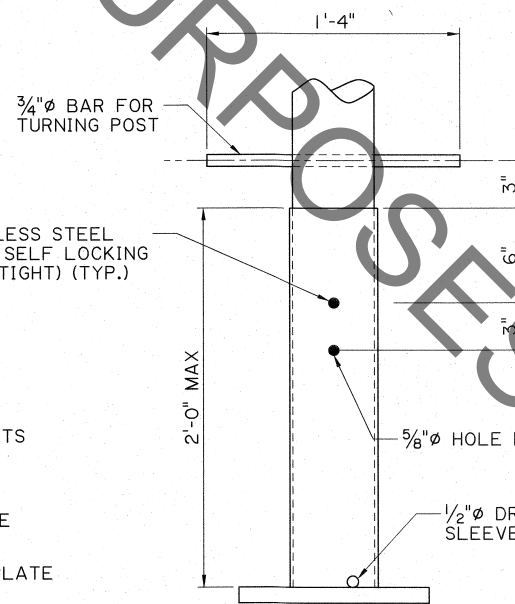
1" HORIZONTAL SUPPORT PLATE
(SEE BASE PLATE DETAILS FOR BOLT HOLES SPACING)

SIGN SUPPORT BRACKET DETAILS



1" BOLT DETAIL

1/2" STAINLESS STEEL BOLT WITH SELF LOCKING NUT (SNUG TIGHT) (TYP.)

5/8" BOLT DETAIL
(STIFFENERS NOT SHOWN FOR CLARITY)

NOTES:

STRUCTURAL MEMBERS SHALL BE AASHTO M270 GRADE 50 STEEL AND SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123. ALL MISC. HARDWARE (EXCEPT STAINLESS STEEL BOLTS) SHALL BE GALVANIZED AS PER ASTM A-153.

⊙ ALL EXISTING DIMENSIONS ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION. ANY ADJUSTMENTS TO SUPPORT BRACKET DIMENSIONS SHALL BE APPROVED BY THE ENGINEER.

* EQUIVALENT BENT PLATES MAY BE USED. ADJUST ANGLE OF BEND AS NEEDED TO ATTACH TO BARRIER RAIL.

PAYMENT FOR THE TYPE "A" SIGN POST AND SUPPORT BRACKET SHALL BE UNDER ITEM NO. 729-08-00210, "MOUNTING (3/2" SIZE POST) (STRUCTURE MOUNT)".

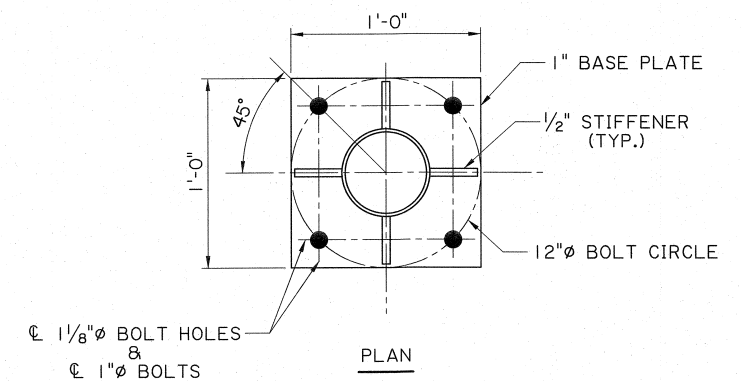
MECHANICAL ANCHOR BOLTS SHALL BE 3/4" STAINLESS STEEL (MIN. F_y = 55 ksi) AND SHALL BE SELECTED FROM THE A.M.L. AND INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS. EACH ANCHOR SHALL HAVE AN ALLOWABLE CAPACITY OF 3 KIPS PULLOUT AND 3 KIPS SHEAR AFTER APPLICATION OF ANY REDUCTION FACTORS FOR ANCHOR SPACING AND EDGE DISTANCE.

A 1/8" NEOPRENE PAD SHALL BE USED BETWEEN ALL STEEL AND CONCRETE CONTACT SURFACES.

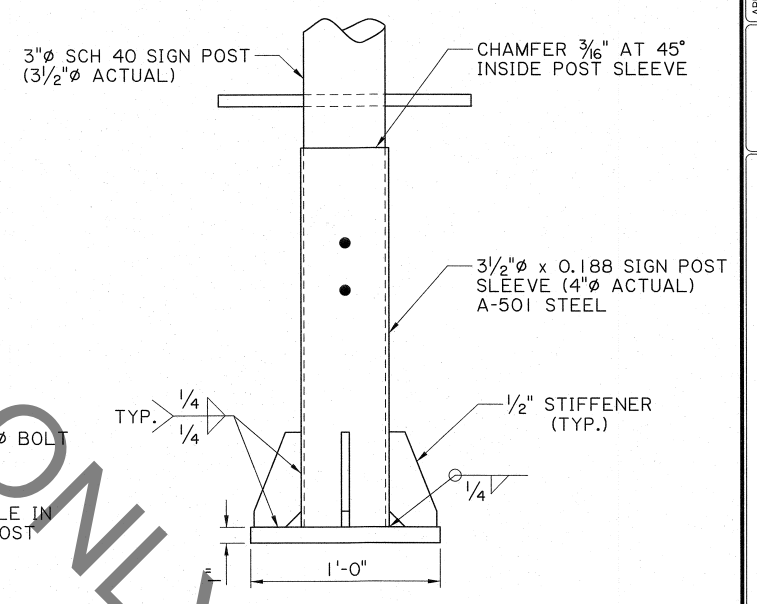
ANY PORTIONS OF THE EXISTING BARRIER THAT ARE DAMAGED SHALL BE REPAIRED TO THE SATISFACTION OF THE PROJECT ENGINEER.

REGARDLESS OF ITS ORIENTATION, NO PART OF ANY SIGN SHALL EXTEND BEYOND THE FRONT EDGE OF THE TOP OF BARRIER RAIL. DIMENSIONS OF SUPPORT POST AND BRACKET SHALL BE ADJUSTED AS NEEDED PRIOR TO FABRICATION.

MAXIMUM ALLOWABLE SIGN AREA = 20 SQ. FT.



PLAN



ELEVATION

1" BASE PLATE & SIGN POST SLEEVE DETAILS

SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGN	CHECK	DETAIL	CHECK	REVIEW	SERIES #	17 OF 17	
K. BRAUNER	C. GUIDRY	K. BRAUNER	C. GUIDRY	C. BOURGEOIS			

KURT M. BRAUNER
License No. 30567
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
6/24/22

APPROVED BY CHIEF ENGINEER:

Christy P. Felt

DATE: 7/1/2022

CONTRAFLOW SIGNS
(POST AND RAIL BARRIER)

ROADSIDE SIGNING STANDARDS

STANDARD PLAN

DOTD
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
BRIDGE AND STRUCTURAL DESIGN