

SIGN ELEVATION

N.T.S.

1 SIGN ELEVATION

N.T.S.

2 PROPERTIES SCHEDULE

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3

GENERAL NOTES & SPECIFICATIONS

1. GOVERNING CODES:

SOUTH FLORIDA BUILDING CODE (ASCE 7-98) 120 MPH, EXP. C
SOUTHERN STANDARD BUILDING CODE 138 MPH
UNIFORM BUILDING CODE, 1997 124 MPH, EXP. C

2. DESIGN LOADS:

DEAD LOAD 6.1 LBS. PER SQ. FT.
WIND LOAD 66.0 LBS. PER SQ. FT.

3. RESTRICTIONS:

A. THE DESIGN LOADS ABOVE ARE BASED ON A HEIGHT ABOVE GROUND OF 25 FEET MAXIMUM.

4. LIMITATIONS:

THE DESIGN AND CONSTRUCTION OF THE SIGN SHOWN HEREON CONFORMS TO THE ABOVE GOVERNING CODES WHEN INSTALLED AS SPECIFIED ON THIS DRAWING. NO OTHER WARRANTY IS EXPRESSED OR IMPLIED. ANY ALTERATIONS OF THIS DRAWING WILL VOID THE SHEET. THIS SHEET IS VALID ONLY IF SIGNED IN INK BY THE ENGINEER. THE METHOD OF ATTACHMENT TO SUPPORTS (POLES, WALLS, ETC.) IS NOT A PART OF THIS WORK AND MUST BE DESIGNED AND DETAILED BY OTHERS.

5. MATERIALS:

A. ALUMINUM - ALLOY 6061-T6 OR 6005-T5
STAINLESS STEEL BOLTS - TENSILE STRENGTH > 90KSI, ASTM F593
SIGN PANELS - TO BE UNDERWRITERS LABORATORY APPROVED.
PLATE STEEL - USE ONLY APPROVED PLASTICS,
PIPE - ASTM A53, GRADE B
TUBE - ASTM A500, GRADE B

B. PROVIDE ISOLATION OF DISSIMILAR MATERIALS.

6. WORKMANSHIP:

ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE GOVERNING CODE (LATEST EDITION) AND THE LOCAL BUILDING OFFICIAL. WELDING SHALL CONFORM TO ALL APPLICABLE CODES. CERTIFIED WELDERS ARE REQUIRED.

7. WELD SPECIFICATIONS:

STEEL WELDING
ALL WELDING SHOULD BE PERFORMED BY CERTIFIED WELDERS. WELDS USING E70 ELECTRODES OR WIRTS AND AWS APPROVED SYSTEMS AND PROCEDURES ARE ACCEPTABLE. PROVIDE PERIODIC SPECIAL INSPECTION FOR FIELD WELDING IN ACCORDANCE WITH UBC SECTION 1701.13.

ALUMINUM WELDING
ALL WELDING SHALL BE DONE IN ACCORDANCE WITH LATEST EDITION OF THE AMERICAN WELDING SOCIETY D1.2 STRUCTURAL WELDING CODE ALUMINUM.

MAXIMUM CASE COMBO DESIGN
COMBO &/OR 3'x8'+4'x8' COMBO, U.O.N.

WIND:
W = 66 x 4 x 8 = 2112 lb
M = 192 x 8/2 = 768 ft-lb
S = 4224 x 12 / (1.33 x 0.66 x 35000) = 1.65 ft²
f = 4224 x 12 / (5.028 ft²) = 10082 psi < 28000

USE 3" x 8" STANDARD PIPE

GRAVITY:
M = 6 x 4 x 8 = 192 lb
f(10g) = 768 x 12 / 0.63ft² = 14629 psi
f(wind) = 768 x 12 / 1.845 ft² = 4996 psi

COMBINED STRESS:
10082 / 17500 + 14629 / 28000 = 1.1 < 1.3. O.K.

WIND:
W = 66 x 3 x 8 = 1584 lb
M = 4224 + 1584 x (4 + 3/2) = 12936 ft-lb
S = 12936 x 12 / (1.33 x 0.6 x 35000) = 5.71 ft²
f = 12936 x 12 / (1.33 x 0.6 x 35000) = 5.71 ft²

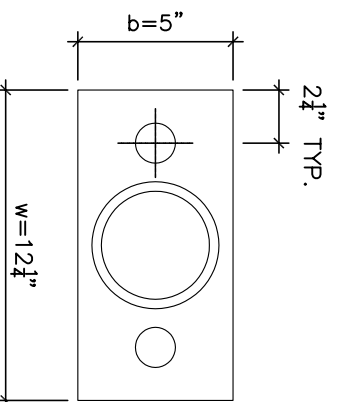
USE 4" x 8" DOUBLE EXTRA STRONG PIPE

BOLT TENSION:
T = 12936 x 12 / (0.99 x 2.50) = 62720 lb
A = 62720 / (1.33 x 30000 x 2) = 0.786 ft²

USE (2)-1 1/2" x 8" BOLTS

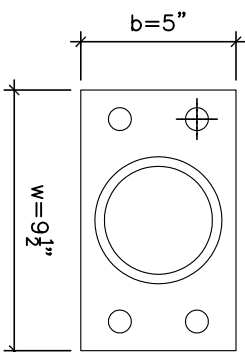
LOWER PLATE:
USE PL. 1/2" x 5" x 12 1/4"
W/ (2)-1 1/2" x 8" BOLTS

2 1/2" TYP.



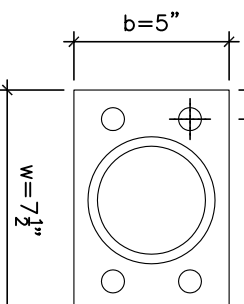
MIDDLE PLATE:
USE PL. 7/8" x 5" x 9 1/2"
W/ (4)-3/4" x 8" BOLTS

1 1/2" TYP.

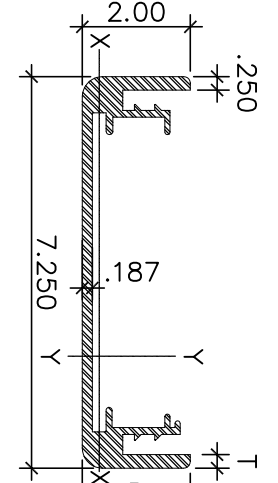


UPPER PLATE:
USE PL. 1/2" x 5" x 7 1/2"
W/ (4)-5/8" x 8" BOLTS

1 1/2" TYP.



EXTRUSION "C"



K-X-X AXIS
A = 2.50
I = 1.03
S = 1.845 BOTTOM
S = 0.630 TOP

X-Y-X AXIS
A = 2.50
I = 18.23
S = 8.028 LEFT
S = 8.028 RIGHT

ALLOWABLE STRESSES:

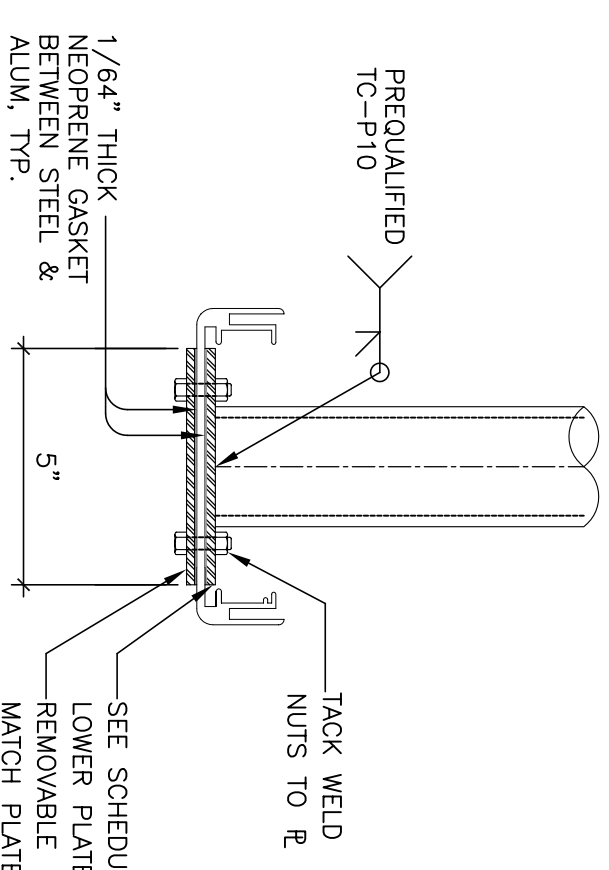
BENDING TENSION:
X-X AXIS
F_b = 28 KSI
Y-Y AXIS
F_b = 19 KSI

BENDING COMPRESSION:
X-X AXIS
FLANGES:
b/t = 2.00 / .280 = 8.0 < 9.8
F_b = 28 KSI

Y-Y AXIS
FLANGES:
b/t = 2.00 / .250 = 8.0
F_b = 27.3 - 0.193 b/t = 19.9 KSI
WEB:
L_b / r_y = 12.34 / 0.188
F_b = 23.9 - 0.124 L_b = 17.5 KSI

PROPERTIES SCHEDULE

SIGN SIZE	UPPER PIPE	UPPER PLATE	UPPER BOLTS	LOWER PIPE	LOWER PLATE	LOWER BOLTS	EXTRUSION
LHxLW + UHxUW	2 1/2" STANDARD	3/8"x5"x6 1/2"	(4)-1/2" φ	4" XXSTRONG	1"x5"x10"	(4)-7/8" φ	C
4'x8' + 32'x6'	2 1/2" STANDARD	3/8"x5"x6 1/2"	(4)-1/2" φ	4" XXSTRONG	1"x5"x10"	(4)-7/8" φ	C
4'x8' + 32'x8'	3" STANDARD	1/2"x5"x7 1/2"	(4)-5/8" φ	4" XXSTRONG	1 1/2"x5"x12"	(2)-1 1/2" φ	C
4'x6' + 3'x6'	2 1/2" STANDARD	3/8"x5"x6 1/2"	(4)-1/2" φ	4" XXSTRONG	1"x5"x10"	(4)-7/8" φ	C
4'x8' + 3'x6'	2 1/2" STANDARD	3/8"x5"x6 1/2"	(4)-1/2" φ	4" XXSTRONG	1 1/2"x5"x12"	(2)-1 1/2" φ	C
4'x8' + 4'x6'	3" STANDARD	1/2"x5"x7 1/2"	(4)-5/8" φ	4" XXSTRONG	1"x5"x10"	(4)-7/8" φ	C
32'x6' + 4'x6'	3" STANDARD	1/2"x5"x7 1/2"	(4)-5/8" φ	4" XXSTRONG	1 1/2"x5"x12"	(2)-1 1/2" φ	C
32'x6' + 4'x8'	3" STANDARD	1/2"x5"x7 1/2"	(4)-5/8" φ	4" XXSTRONG	1 1/2"x5"x12"	(2)-1 1/2" φ	C
3'x6' + 4'x6'	3" STANDARD	1/2"x5"x7 1/2"	(4)-5/8" φ	4" XXSTRONG	1"x5"x10"	(4)-7/8" φ	C
3'x8' + 4'x8'	3" STANDARD	1/2"x5"x7 1/2"	(4)-5/8" φ	4" XXSTRONG	1 1/2"x5"x12"	(2)-1 1/2" φ	C



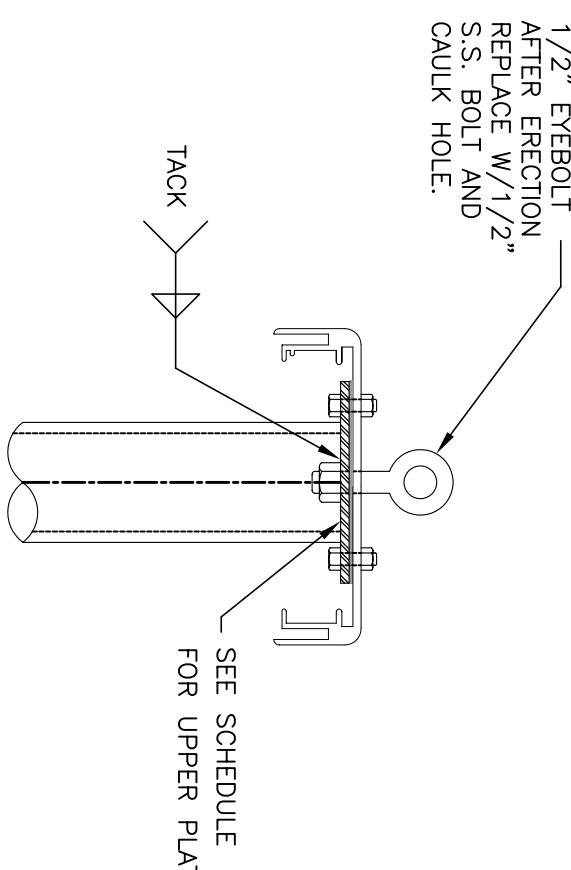
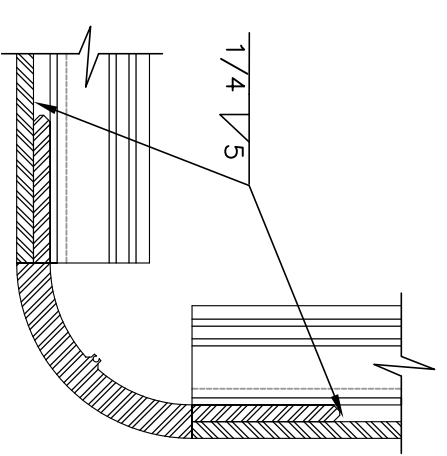
SEE SCHEDULE FOR LOWER PLATE REMOVABLE MATCH PLATE

PIPE CONN. AT SIGN BOTTOM

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4 CORNER DETAIL

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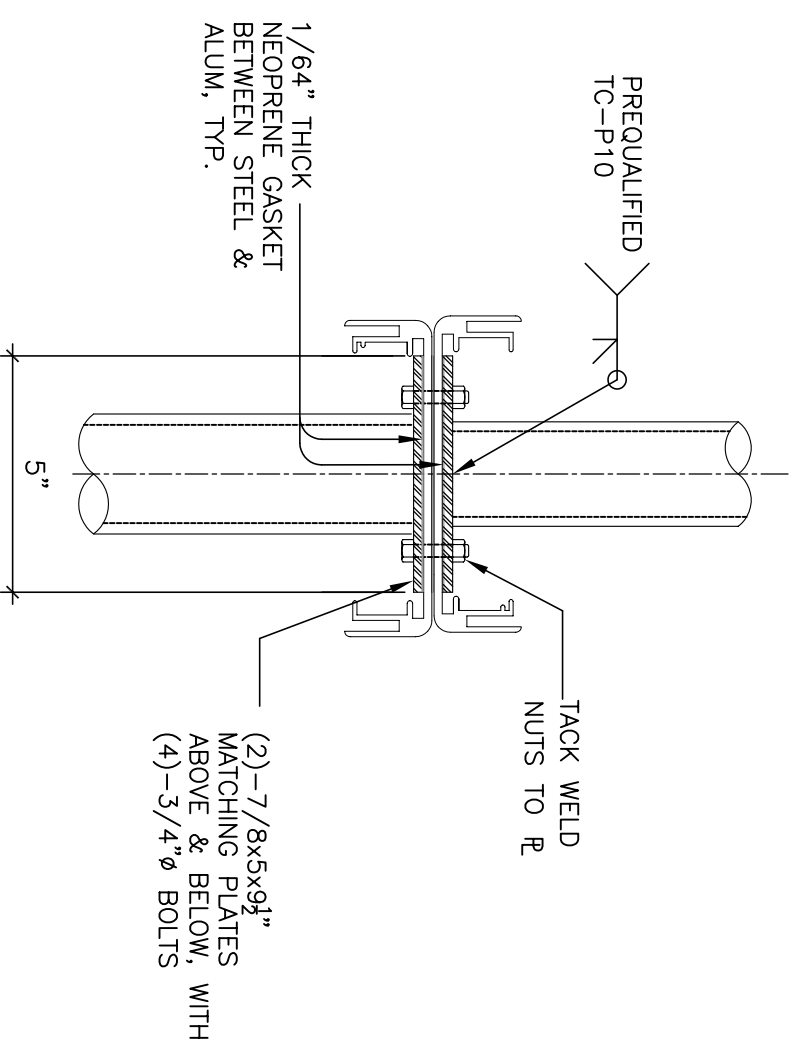
SEE SCHEDULE FOR UPPER PLATE

PIPE CONN. AT SIGN TOP

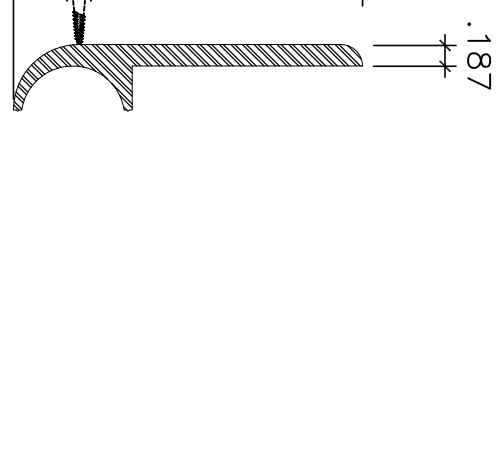
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6 PIPE CONN. AT SIGN MIDDLE

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OCCURS ONLY ON VERTICAL EXTRUSION PIECES



EXTRUSION "D"

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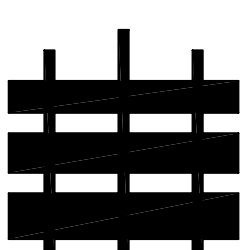
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REVISIONS BY DATE

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SAN DIEGO, CA 92103



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(310) 534-7500

CENTER POLE COMBO
SIGN ELEVATION, EXTRUSIONS
AND DETAILS

DATE: 10/29/01
JOB No. 489
DESIGNED:
DRAWN BY:
TD
APPROVED BY:
MTN

SHEET
15
OF 15