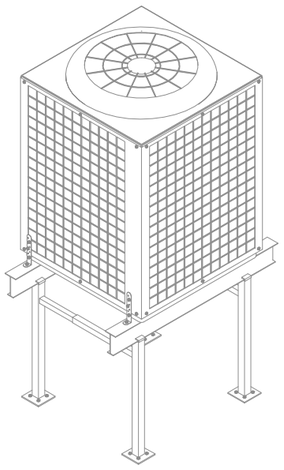
P R O J E C T:

Aluminum Roof Top Condenser Stand

THE METAL SHOP

2541 W. Dunnellon Road
Dunnellon, FL 34433
www.metalshop.org
Phone: 888-441-2492 Fax: 352-522-0007



NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2017 FLORIDA BUILDING CODE, 6TH EDITION, BUILDING VOLUME AND ASCE 7-10 MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES.
2. ANY CHANGE FROM THE DRAWINGS AND/OR FIELD CHANGE CONDITIONS MUST IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER SO THAT NECESSARY CHANGED CAN BE MADE AND THE INTENDED DESIGN IS CARRIED OUT TO ITS FULLEST EXTENT.
3. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO PROVIDE ADEQUATE ANCHORAGE AND A CORROSION RESISTANT SEPARATION BARRIER/COATING AT THE BOTTOM OF ALL BASE PLATES WHEN BEARING DIRECTLY ON CONCRETE AND STEEL STRUCTURES. THE SEPARATION BARRIER IS INTENDED ONLY FOR THE PREVENTION OF CORROSION.
4. MINIMUM DESIGN LOADS: DEAD LOADS AND LIVE LOADS IN ACCORDANCE WITH THE 2017 FLORIDA BUILDING CODES, CHAPTER 16. AIR CONDENSER AND FRAME WITHSTANDS WIND SPEEDS UP TO 160 MPH PER 2017 FBC AND 7-10 STANDARDS.
5. CALCULATIONS ARE BASED ON AIR CONDENSER SURFACE AREA. THIS IS DETERMINED BY MULTIPLYING THE UNIT WIDTH BY THE UNIT HEIGHT, WITH THE RESULT BEING THE SURFACE SQUARE FOOTAGE. MAXIMUM SIZED ALLOWED FOR THE CONDENSER STAND ARE DENOTED IN THE TABLE ON SHEET RT-2.
8. 6061-T6/6005-T5 ALUMINUM ALLOY CONSTRUCTION FOR EXTERIOR EXPOSURE APPLICATIONS.
9. ROOF STAND SHALL HAVE ALL WELDED JOINTS AND SEAMS UNLESS OTHERWISE STATED.
10. WELD FILLER SHALL BE ALUMINUM ALLOY 4043 WITH TENSILE STRENGTH OF 15 KSI.
11. ALL ANCHOR/CONNECTION BOLTS SHALL BE IN ACCORDANCE WITH ASTM A-307 OR A-325F.
12. EXPANSION BOLTS AND LAG SCREWS SHALL HAVE A MINIMUM SPACING OF 25" AND MINIMUM EDGE DISTANCE OF 3" FOR EXPANSION BOLTS AND 1" FOR LAG SCREWS.
13. VIBRATION ISOLATOR PADS SHALL BE PROVIDED BY THE A/C CONTRACTOR BETWEEN THE BOTTOM OF THE CONDENSER AND THE TOP RAIL SO AS NOT TO CAUSE VIBRATION TO EXISTING SUB-STRUCTURE. SEE SHEET RT-2 FOR DETAILS.

REVISIONS

NO.	DESCRIPTION	DATE	INITIALS

PROFESSIONAL SEAL

JOSEPH D. HILLER LICENSE No 74583 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Joseph Hiller
Date: 2018.08.14 13:52:20 -04'00'

JOSEPH D. HILLER, P.E.
Florida P.E. License #74583

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PROJECT:
AC Roof Top Stands
for:
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Dunnellon, FL 34433

DRAWN BY:	A. NOTO
DATE:	8/14/18
SCALE:	N/A

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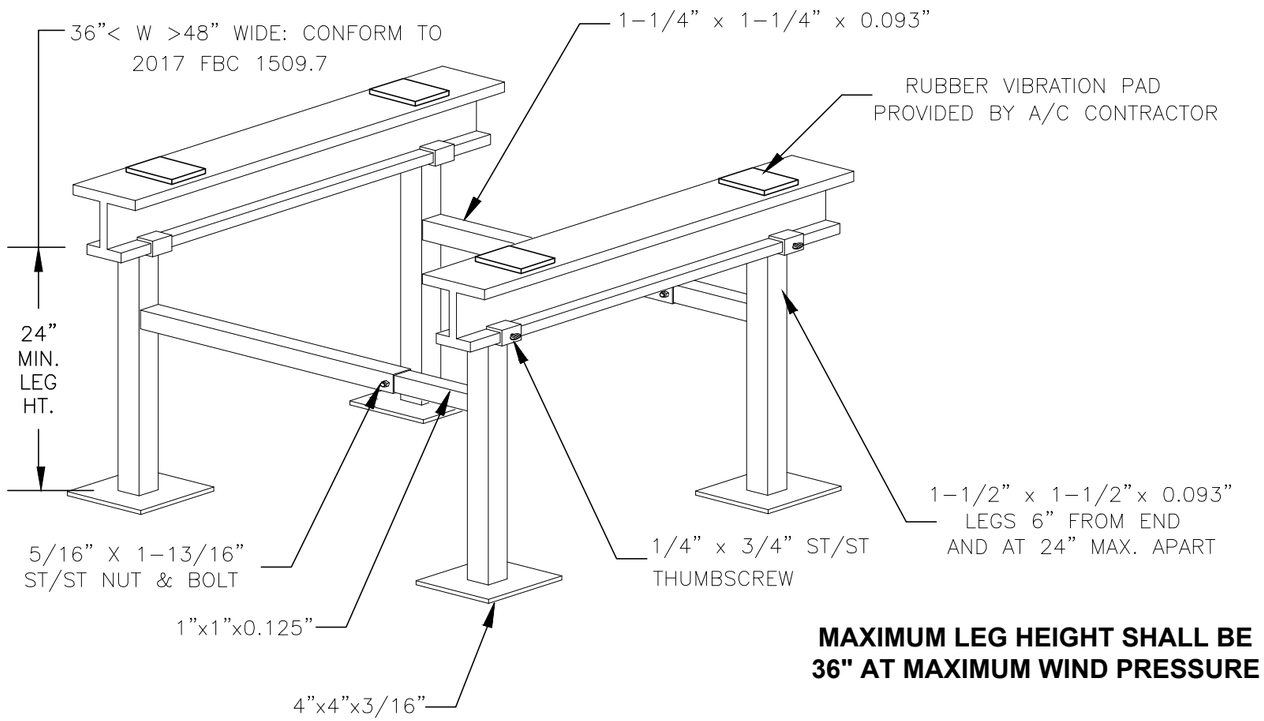
1 Unit System



MAXIMUM LEG HEIGHT SHALL BE 36" AT MAXIMUM WIND PRESSURE

PROVIDE ONE OF THE FOLLOWING ATTACHMENT METHODS

INSTALLATION INSTRUCTIONS:

USE 3/8" x 1–1/4" STAINLESS OR COATED BOLT, NUT & 1" WASHER AT 4 LOCATIONS THROUGH UNITS BOTTOM PAN AND TOP RAIL OF UNIT STAND.

USE 4 'METAL SHOP' ANCHOR CLIPS #771, 773, 883 AT 4 CORNERS OF UNIT AND TOP RAIL OF UNIT STAND.

WRAP UNIT AND TOP RAIL WITH 22 GA. HURRICANE COIL STRAP, GALVANIZED AT 2 LOCATIONS AND BOLT STRAP TO TOP RAIL OF STAND USING 1/4" GALVANIZED OR STAINLESS STEEL BOLTS, NUTS, & WASHERS

TABLE 1509.6.5
CLEARANCE BELOW RAISED ROOF MOUNTED MECHANICAL UNITS

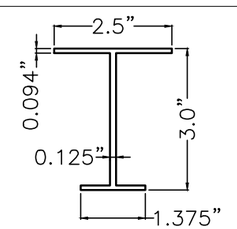
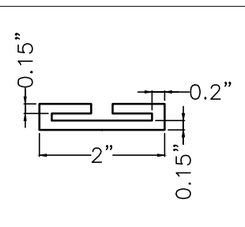
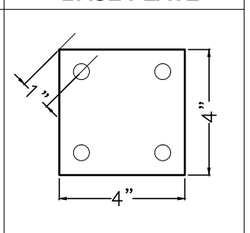
WIDTH OF MECHANICAL UNIT	MINIMUM CLEARANCE ABOVE SURFACES
W < 24"	14"
24" < W < 36"	18"
36" < W < 48"	24"
48" < W < 60"	30"
W > 60"	48"

A/C STAND REACTIONS TABLE

ROOF MATERIAL	ALLOWABLE BUILDING HEIGHT AT 160 MPH	MAXIMUM ALLOWABLE WEIGHT PER UNIT	UPLIFT	LATERAL	COMP.	BENDING MOMENT
CONC. DECK/ STEEL JOIST	120'	350 LBS	294#	331#	605#	262 FT–LB
WOOD DECK	75'	350 LBS	294#	331#	605#	295 FT–LB

DESIGN WIND PRESSURE CALCULATED PER CHAPTER 30: COMPONENTS & CLADDING OF ASCE 7–10 FOR 145 MPH, CAT. II, EXP. D, AT AN ELEVATION OF 60 FT.

MAXIMUM DESIGN WIND PRESSURE	
A/C STAND ATTACHED TO : CONCRETE OR, STEEL HOST STRUCTURE	MAX WIND PRESSURE 82.3 PSF
WOOD HOST STRUCTURE	MAX WIND PRESSURE 79.0 PSF

RAIL SECTION	CLAMP SECTION	BASE PLATE
		

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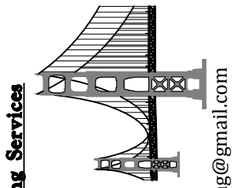

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DRAWN BY:	A. NOTO
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SCALE:	N/A

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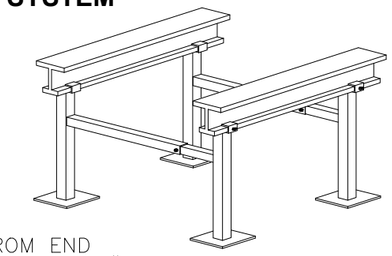
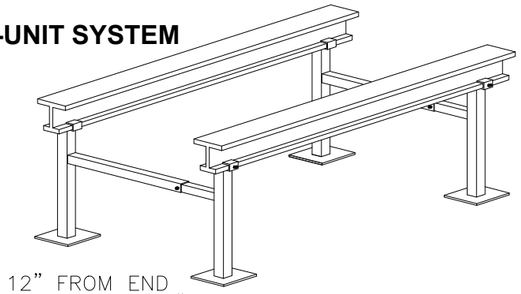
1-UNIT SYSTEM



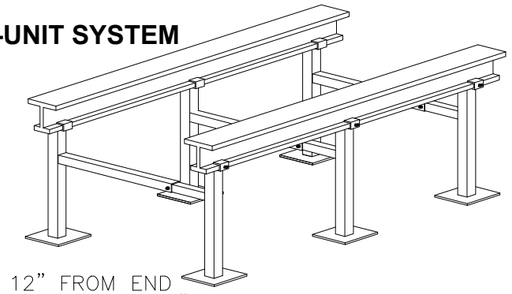
LEGS 6" FROM END
INSIDE LEGS MAX. 24" APART

2-UNIT SYSTEM



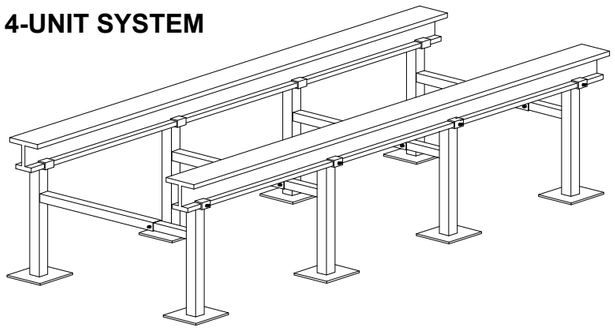
LEGS 12" FROM END
INSIDE LEGS MAX. 48" APART

3-UNIT SYSTEM



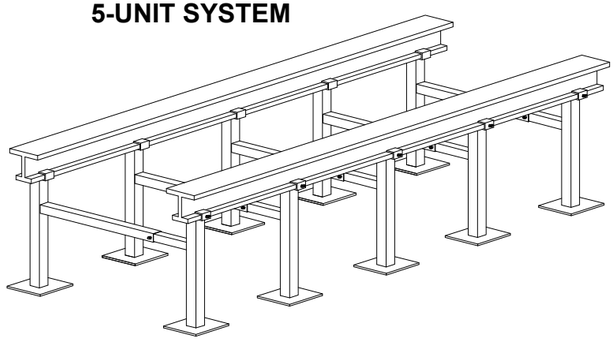
LEGS 12" FROM END
INSIDE LEGS MAX. 42" APART

4-UNIT SYSTEM



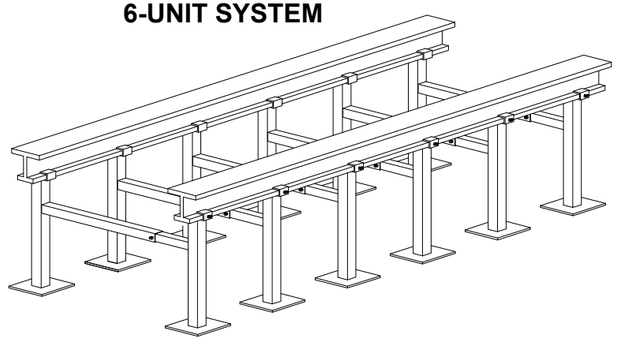
LEGS 12" FROM END
INSIDE LEGS MAX. 40" APART

5-UNIT SYSTEM

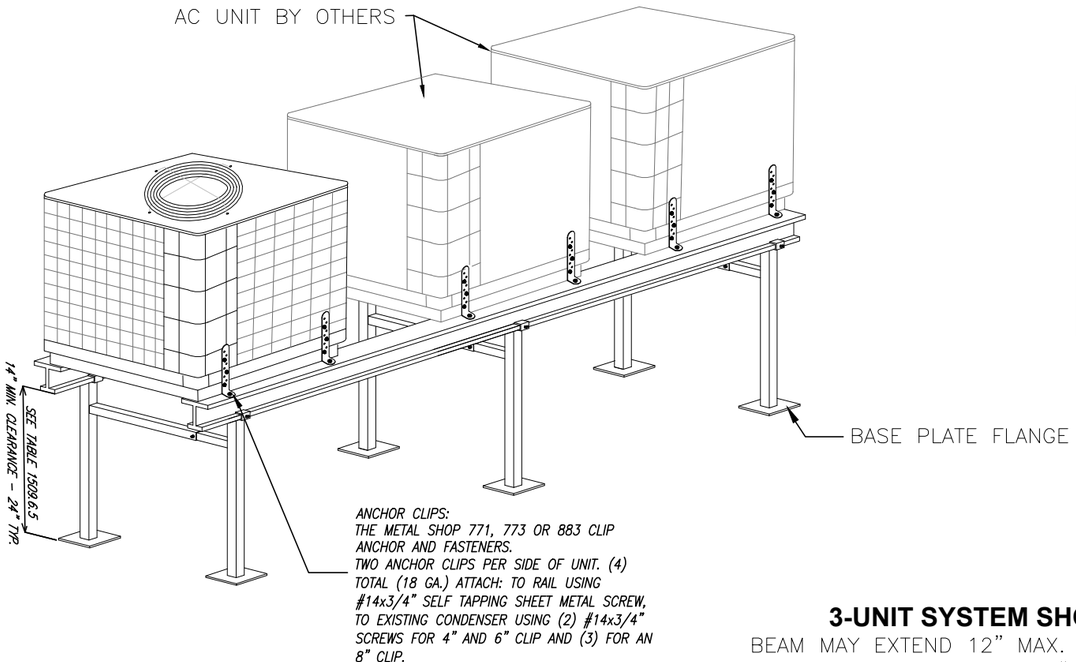


LEGS 12" FROM END
INSIDE LEGS MAX. 38" APART

6-UNIT SYSTEM



LEGS 12" FROM END
INSIDE LEGS MAX. 38" APART



TYPICAL AC MOUNTING DETAIL

NOT TO SCALE

NOTE:

MAINTAIN EQUAL LEG SPACING PER UNIT SYSTEM CONFIGURATION

UNIT/SIZE TABLE						
AC STAND LENGTH	3 FT	6 FT	9 FT	12 FT	15 FT	18 FT
ROOF TYPE	ALL	ALL	ALL	ALL	ALL	ALL
MAX # UNITS	1	2	3	4	5	6
MAX SURFACE AREA PER UNIT	9 SF	9 SF	9 SF	9 SF	9 SF	9 SF
TOTAL SURFACE AREA	9 SF	18 SF	27 SF	36 SF	45 SF	54 SF

3-UNIT SYSTEM SHOWN

BEAM MAY EXTEND 12" MAX. FROM END LEG
INSIDE LEGS MAX. 42" APART

REVISIONS

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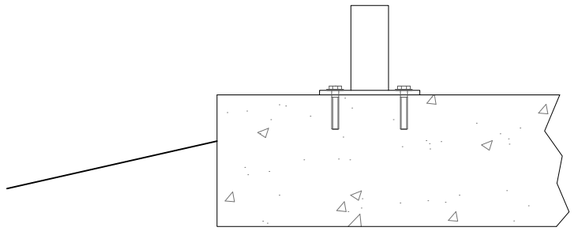
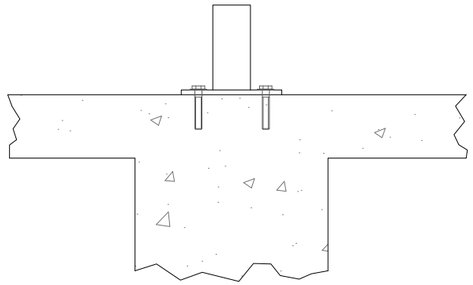
TYPICAL BASE PLATE CONNECTIONS

TO SLAB ON GRADE



FASTENERS:
(4) 1/4" DIA. HEX-HEAD
TAP-CONS WITH 1-1/2" EMBED

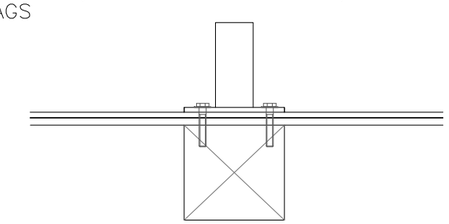
TO STD. WEIGHT CONCRETE



FASTENERS:
(4) 1/4" HILTI "KWIK BOLT II" W/ 2" EMBED OR (4) 1/4" DIA. RAWL MUSHROOM HEAD SPIKES W/ 1-1/4" EMBED.
MIN. ANCHOR SPACING SHALL BE 2.5"
MIN. EDGE DISTANCE SHALL BE 3.0"

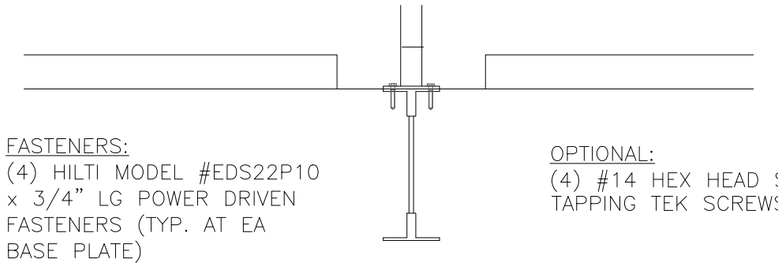
TO WOOD BEAM/TRUSS

OPTIONAL:
(2) 3/8" LAG SCREWS W/ 3-1/2" EMBED INTO BEAM/TRUSS (TYP. EACH BASE PLATE) PRE-DRILL FOR LAGS



FASTENERS:
(4) 3/8" LAG SCREWS W/ 2-1/2" MIN. EMBED INTO TRUSS/BEAM (TYP. EACH BASE PLATE)
MIN. ANCHOR SPACING: 2.5"
MIN. EDGE DISTANCE: 1.0"

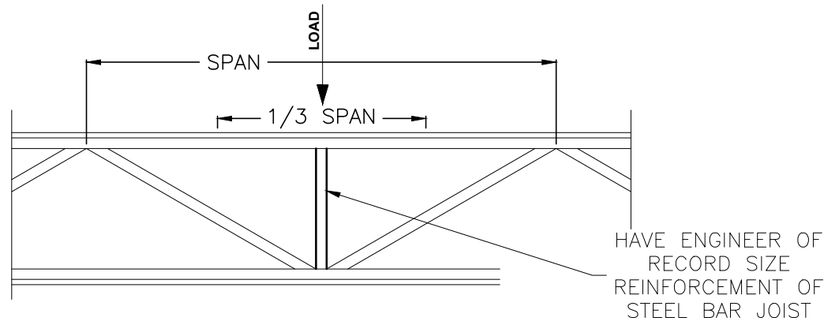
TYPICAL CONNECTION TO STEEL JOIST

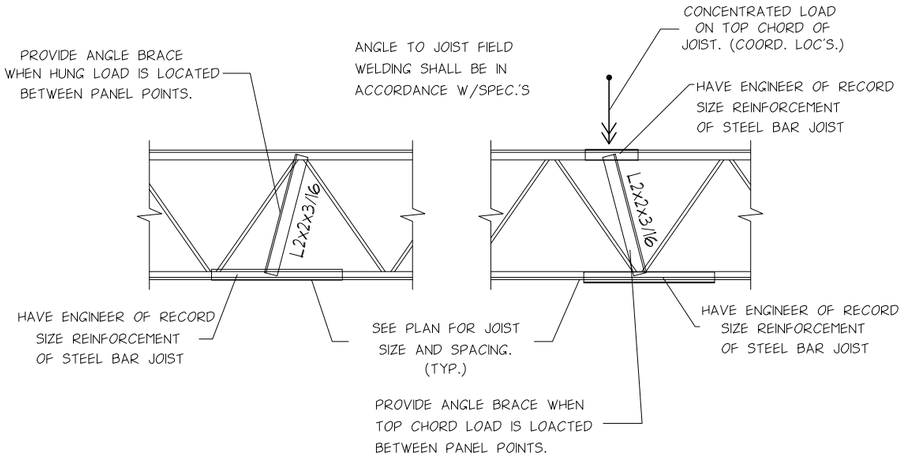


FASTENERS:
(4) HILTI MODEL #EDS22P10 x 3/4" LG POWER DRIVEN FASTENERS (TYP. AT EA BASE PLATE)

OPTIONAL:
(4) #14 HEX HEAD SELF TAPPING TEK SCREWS

JOIST STIFFENER REQUIREMENTS





STEEL JOIST REINFORCING DETAIL
NOT TO SCALE

ROOF TOP UNIT FRAMING

COORDINATE WITH STRUCTURAL ENGINEER PRIOR TO STARTING CONSTRUCTION FOR LARGER ROOF TOP UNITS. STRUCTURAL ENGINEER TO VERIFY THAT EXISTING ROOF STRUCTURE IS CAPABLE OF SUPPORTING THE EXCESSIVE POINT LOAD.

STEEL CHANNEL OR STEEL TUBE MAY BE SUBSTITUTED FOR STEEL ANGLE SIZES SHOWN ABOVE.

VERIFY ALL DIM'S AND DETAILS W/MECH CONTRACTOR BEFORE FABRICATION

ROOF TOP UNIT FRAME SCHEDULE	
UNIT WEIGHT	ANGLE SIZE:
0 - 675 LBS	L3x3x 3/16
676 - 1500 LBS.	L4x4x1/4
1501 - 3000 LBS.	L6x4x3/8 (L.L.H.)
3001 - 6000 LBS.	L6x6x7/16

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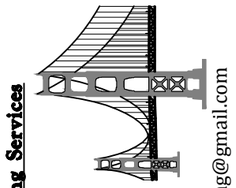

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