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**Civil & STRUCTURAL ENGINEERING**

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**SITE SPECIFIC JOB CHECK LIST**

Date: \_\_\_\_\_

1. Job name and address: \_\_\_\_\_  
 Tara Wyatt  
 202 SW Weael CT  
 Ft White, Fl 32038

2. Your company name and address. You must include a physical address so we can send it back via UPS.  
 \_\_\_\_\_  
 Paso Fino  
 Development & Construction  
 P.O.BOX 831120  
 Ocala, Fl 34483-1120

3. Briefly describe any inform \_\_\_\_\_  
 \_\_\_\_\_

4. The drawings must have the following minimum standards:

- a. Job name and address, your address **ON ALL PAGES OF PLAN**
- b. Plan view with dimensions **TO SCALE**.
- c. Section view or front and side elevations to 1/4" = 1' SCALE. (1/8" or 1/10" for pool enclosures.)  
 Gable & mansard side walls shall include the roof vertical rise and length.
- d. Provide attachment details on drawing.
- e. Wall sections at typical wall and any beam bearing points.
- f. Street map with job location.
- g. Wind zone \_\_\_\_\_ m.p.h. and exposure category B \_\_\_\_\_ or C \_\_\_\_\_ (From Building Department.)
- h. Complete Design Checklist. Copies are in the back of the manual.

5. Other comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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**Design Check List for Pool Enclosures (page 1 of 3)**

1. Design Statement  
 These plans have been designed in accordance with the Aluminum Structures Design Manual by Lawrence E. Bennett and are in compliance with the Florida Building Code, 2004 Edition, Chapter 20. Exposure B:  or C: . Open Building: Importance Factor 0.77; Negative I.P.C. 0.00; 150 MPH Roof Load & 120 MPH or \_\_\_\_\_ MPH Wall Load, 3 second gust velocity load; Design pressures are 10 PSF for roofs & 14 PSF or \_\_\_\_\_ PSF for walls.

Notes: Wind velocity zones and exposure category is determined by local code. Minimum design load of 10 PSF for all roof loads prevents any conversion of roof loads. Design pressures and conversion multipliers are on page 1-ii.

2. Host Structure Adequacy Statement:  
 I certify that I have inspected the host structure and it is in good repair and attachments made to the structure will be solid.

Contractor / Authorized Rep\* Name (please print) \_\_\_\_\_ Phone: \_\_\_\_\_

Contractor / Authorized Rep\* Signature \_\_\_\_\_ Date: \_\_\_\_\_

Note: If the total of beam span & upright height exceeds 55' or upright height exceeds 20', site specific engineering is required.

3. Building Permit Application Package contains the following:
- A. Project name & address on plans  Yes  No
  - B. Site plan or survey with enclosure location  Yes  No
  - C. Contractor's / Designer's name, address, phone number, & signature on plans  Yes  No
  - D. Notice of consumer rights attached and initialed by consumer  Yes  No
  - E. Enclosure layout drawing @ 1/8" or 1/10" scale with the following:
    - 1. Plan view with host structure, enclosure length, projection from host structure, and all dimensions  Yes  No
    - 2. Front and side elevation views with all dimensions & heights  Yes  No

Note: All mansard wall drawings shall include mansard panel at the top of the wall.

- 3. Beam location (show in plan & elevation view) & size (i.e. 2" x 8" x 0.072" x 0.224")  Yes  No
- 4. Upright location (show in plan & elevation view) & size (i.e. 2" x 8" x 0.072" x 0.224")  Yes  No

Upright & wall member allowable height / span conversions from 120 MPH wind zone, 'B' Exposure to \_\_\_\_\_ MPH wind zone and/or 'C' Exposure for load width \_\_\_\_\_

Look up span on 120 MPH table and apply the following formula:  
 Span / Height @ 120 MPH  Required Converted Span

$$\frac{0.00}{\text{Wind Zone Multiplier}^*} (b \text{ or } d) \times \frac{1.00}{\text{Exposure Multiplier}^*} (b \text{ or } d) \times \frac{1.00}{\text{Exposure Multiplier}^*} (b \text{ or } d) = \frac{\text{Span}}{\text{Span}}$$

- \* Appropriate multiplier from page 1-ii.
- 5. Chair rail & girt size, length, & spacing (i.e. 2" x 2" x 0.044" x 7'-0" @ 6'-0" O.C.)  Yes  No
  - 6. Eave rail size, length, spacing and stitching of (i.e. 1" x 2" to 2" x 2" x 7'-0" @ 6'-10" O.C.)  Yes  No
  - 7. Enclosure roof diagonal bracing in plan view  Yes  No
  - 8. Knee braces length, location, & size (i.e. 2" x 3" x 0.045" for 2" x 8" x 0.072" x 0.224" SMB)  Yes  No

\* Must have attended Engineer's Continuing Ed/education Class with in past two years.

**Design Check List for Pool Enclosures (page 2 of 3)**

9. Wall cables or K-bracing sizes shown in wall views
4. Highlight details from the Aluminum Structures Design Manual:
- A. Beam & purlin tables with size, thickness, spacing, & spans / lengths (tables 1.1 & 1.2 or 1.8 & 1.9)  Yes  No
- B. Upright & girt tables with size, thickness, spacing, & spans / lengths (tables 1.3 & 1.4)
- C. Table 1.6 with beam & upright combination
- D. Connection details to be use such as:
1. Beam to upright
  2. Beam to wall
  3. Beam to beam
  4. Chair rail, purlins, & knee braces
  5. Extruded gutter connections
  6. Angle to deck and / or sole plate
  7. Anchors go through pavers into concrete
  8. Minimum footing and / or knee wall details
  9. Cable or K- brace detail, pages 34, 36, 27, or 38

Wall area calculations for cables:

W = wall width, H = wall height, R = rise

W1 = width @ top of mansard, W2 = width @ top of wall

Example 1: Flat Roof

Front wall @ eave:  $\frac{W}{H}$  ft x  $\frac{H}{a}$  ft = 0.00 ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Largest side wall:  $\frac{W}{H}$  ft x  $\frac{H}{b}$  ft = 0.00 ft<sup>2</sup> @ 50% = 0.00 ft<sup>2</sup>

Total area / (233 ft<sup>2</sup> / cable for 3/32") = 0 cable pairs  
 TOTAL = 0.00 ft<sup>2</sup>

or

Total area / (445 ft<sup>2</sup> / cable for 1/8") = 0 cable pairs

Side wall cable calculation:  $\frac{0.00}{b}$  ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Side wall area / (233 ft<sup>2</sup> / cable for 3/32") = 0 cable(s)

or

Side wall area / (445 ft<sup>2</sup> / cable for 1/8") = 0 cable(s)

Example 2: Gable Roof

Front wall @ eave:  $\frac{W}{H}$  ft x  $\frac{H}{a}$  ft = 0.00 ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Front gable rise\*:  $\frac{R}{W}$  ft x  $1/2(\frac{H}{b})$  ft = 0.00 ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Largest side wall:  $\frac{W}{H}$  ft x  $\frac{H}{b}$  ft = 0.00 ft<sup>2</sup> @ 50% = 0.00 ft<sup>2</sup>

Largest side gable rise\*:  $\frac{R}{W}$  ft x  $1/2(\frac{H}{b})$  ft +  $\frac{H}{d}$  ft = 0.00 ft<sup>2</sup> @ 50% = 0.00 ft<sup>2</sup>

TOTAL = 0.00 ft<sup>2</sup>

or

Total area / (233 ft<sup>2</sup> / cable for 3/32") = 0 cable pairs

Total area / (445 ft<sup>2</sup> / cable for 1/8") = 0 cable pairs

Side wall cable calculation:  $\frac{0.00}{c}$  ft<sup>2</sup> +  $\frac{0.00}{d}$  ft<sup>2</sup> = 0.00 ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Side wall area / (233 ft<sup>2</sup> / cable for 3/32") = 0 cable(s)

or

Side wall area / (445 ft<sup>2</sup> / cable for 1/8") = 0 cable(s)

b-2

**Design Check List for Pool Enclosures (page 3 of 3)**

Example 3: Mansard Roof

Front wall @ eave:  $\frac{W}{H}$  ft x  $\frac{H}{a}$  ft = 0.00 ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Front mansard rise\*:  $\frac{R}{W1}$  ft x  $1/2(\frac{H}{b} + \frac{W2}{W1})$  ft = 0.00 ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Largest side wall:  $\frac{W}{H}$  ft x  $\frac{H}{b}$  ft = 0.00 ft<sup>2</sup> @ 50% = 0.00 ft<sup>2</sup>

Largest side mansard rise\*:  $\frac{R}{W1}$  ft x  $1/2(\frac{H}{b} + \frac{W2}{W1})$  ft +  $\frac{H}{d}$  ft = 0.00 ft<sup>2</sup> @ 50% = 0.00 ft<sup>2</sup>

TOTAL = 0.00 ft<sup>2</sup>

or

Total area / (233 ft<sup>2</sup> / cable for 3/32") = 0 cable pairs

Total area / (445 ft<sup>2</sup> / cable for 1/8") = 0 cable pairs

Side wall cable calculation:  $\frac{0.00}{c}$  ft<sup>2</sup> +  $\frac{0.00}{d}$  ft<sup>2</sup> = 0.00 ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Side wall area / (233 ft<sup>2</sup> / cable for 3/32") = 0 cable(s)

or

Side wall area / (445 ft<sup>2</sup> / cable for 1/8") = 0 cable(s)

Example 4: Dome Roof

Front dome wall @ eave:  $\frac{W}{H}$  ft x  $\frac{H}{a}$  ft = 0.00 ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Front dome rise\*:  $\frac{R}{W}$  ft x  $1/2(\frac{H}{b})$  ft = 0.00 ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Largest side wall:  $\frac{W}{H}$  ft x  $\frac{H}{b}$  ft = 0.00 ft<sup>2</sup> @ 50% = 0.00 ft<sup>2</sup>

Largest side dome rise\*:  $\frac{R}{W}$  ft x  $1/2(\frac{H}{b})$  ft +  $\frac{H}{d}$  ft = 0.00 ft<sup>2</sup> @ 50% = 0.00 ft<sup>2</sup>

TOTAL = 0.00 ft<sup>2</sup>

or

Total area / (233 ft<sup>2</sup> / cable for 3/32") = 0 cable pairs

Total area / (445 ft<sup>2</sup> / cable for 1/8") = 0 cable pairs

Side wall cable calculation:  $\frac{0.00}{c}$  ft<sup>2</sup> +  $\frac{0.00}{d}$  ft<sup>2</sup> = 0.00 ft<sup>2</sup> @ 100% = 0.00 ft<sup>2</sup>

Side wall area / (233 ft<sup>2</sup> / cable for 3/32") = 0 cable(s)

or

Side wall area / (445 ft<sup>2</sup> / cable for 1/8") = 0 cable(s)

Notes:

b-3

**General Notes and Specifications:**

1. The following structures are designed to be married to block and wood frame structures of adequate structural capacity. The contractor / home owner shall verify that the host structure is in good condition and of sufficient strength to hold the proposed addition.
2. If the owner or contractor has a question about the host structure, the owner (at his own expense) shall hire an architect, engineer, or a certified home inspection company to verify host structure capacity.
3. The structures designed using this section shall be limited to a maximum combined span and upright height of 55' and a maximum upright height of 20'. Structures larger than these limits shall have site specific engineering.
4. Spans are for enclosures with mean roof heights less than 30'. For greater heights, consult engineer.
5. Connections to fascia shall be limited to overhangs of 24" or less unless site specific engineering is provided.
6. The proper structural name for a chair rail or top rail of an enclosure is a girt. Thus the terminology shall be interchangeable.
7. Screws that penetrate the water channel of the super gutter shall have ends clipped off for safety of cleaning gutter and the heads of screws through the gutter into the fascia shall be caulked.
8. Section 7 contains span tables and attachment details for pans and composite panels.
9. When using TEK screws in lieu of S.M.S., longer screws must be used to compensate for drill head.
10. An additional super gutter strap or ferrule is required to be located near the midpoint of the beam spacing. Straps shall be attached to each truss / rafter tail when a 2" sub-fascia does not exist. Straps at the beam are not required when straps are placed @ each truss / rafter tail and spacing of straps does not exceed 2'-0".
11. Super or extruded gutter details are applicable to all widths of super or extruded gutters, and gutters may be substituted. Gutter straps and/or ferrules shall be the width of the inside and outside of the super or extruded gutter respectively.
12. If the sub-fascia is 3/4", and the sub-fascia is in good repair, a 3/4" P.P. strip the width of the fascia may be added to the existing sub-fascia by attaching the plywood with (2) 3" 16d common nails or (2) 3" #8 screws. This gives the equivalent of a 2" fascia.
13. Spans may be interpolated between values but not extrapolated outside values.
14. For Design Check List and Inspection Guides for Screened Enclosures, see Appendix (Section 10).

**Section 1 Design Statement:**

The structures designed for Section 1 are framing systems with screen roofs & walls and are considered open structures with a negative internal pressure coefficient of 0.00. The design loads used are from Chapter 20 of the 2004 Florida Building Code. The loads assume a mean roof height of less than 30'; roof slope of 0° to 20°.  $1 = 0.77$ . All loads are based on 20 / 20 screen or larger. Wall heights may be increased when using 18 / 14 screen. All pressures shown in the below table are in PSF (#SF).

**SECTION 1 Design Loads for Structures with Screen Roof & Walls**

Wind Velocity	Exposure 'B'		Exposure 'C'	
	Roofs	Walls	Roofs	Walls
100 M.P.H	Note 1	Note 2	Note 1	Note 2
110 M.P.H	10	10	10	13
120 M.P.H	10	11	10	16
130 M.P.H	10	14	10	19
140 M.P.H	10	14.6	10	19.9
150 M.P.H	10	16	10	22
160 M.P.H	10	18	10	26
180 M.P.H	10	21	10	30

Note 2: Multipliers for 'C' exposure category are for wall loads only.

**Conversion Table 1A**

Wind Zone Conversions for Screen Wall Frame Members Only

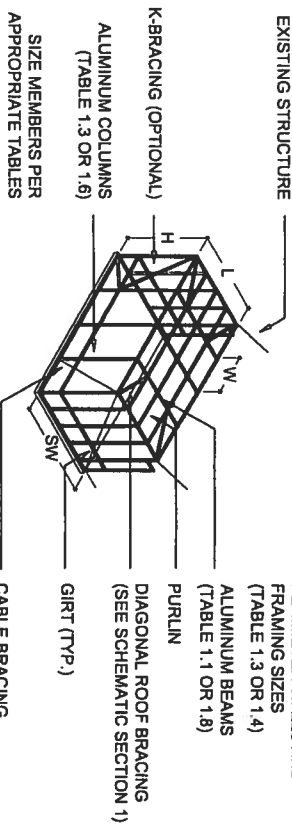
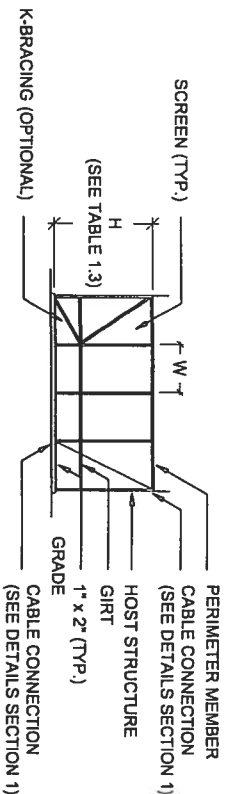
Mean Host Structure Height in Feet	Design Exposure 'B' Multiplier	Design Exposure 'C' Multiplier
10	1.0	1.12
11	1.0	1.08
12	1.0	1.00
13	1.0	1.13
14	1.0	1.00
15	1.0	0.99
16	1.0	0.96
18	1.0	0.92
21	1.0	0.87

Note: Multipliers are for wall loads only.

**Conversion Table 1B**

Conversion Based on Mean Height of Host Structure for Screen Wall Frame Members

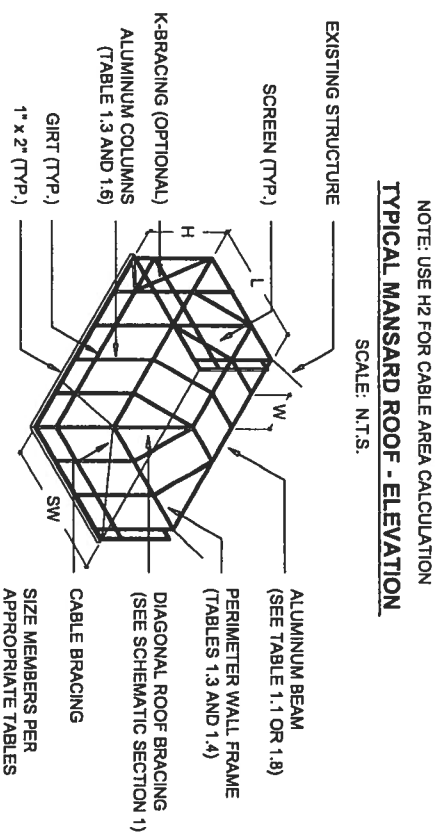
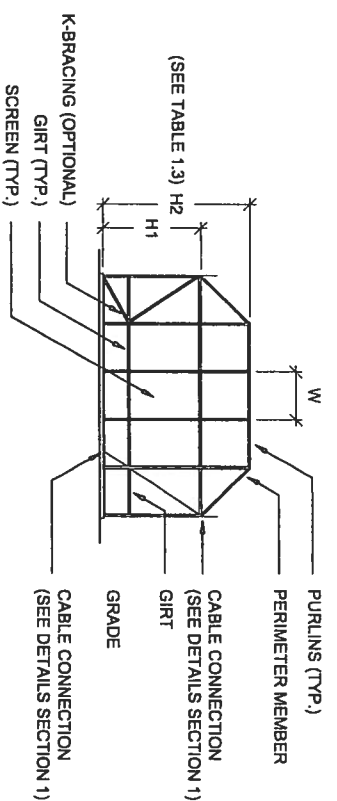
Mean Host Structure Height	Deflection	Bending
0 - 15'	0.94	0.91
15 - 20'	0.92	0.88
20 - 25'	0.91	0.86
25 - 30'	0.89	0.85



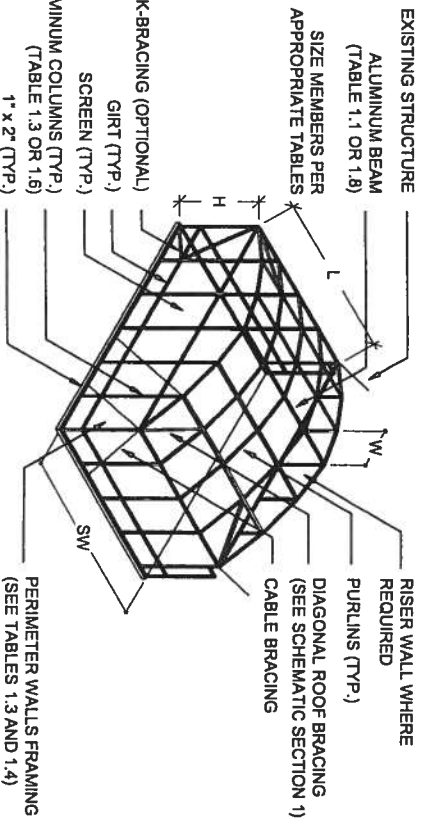
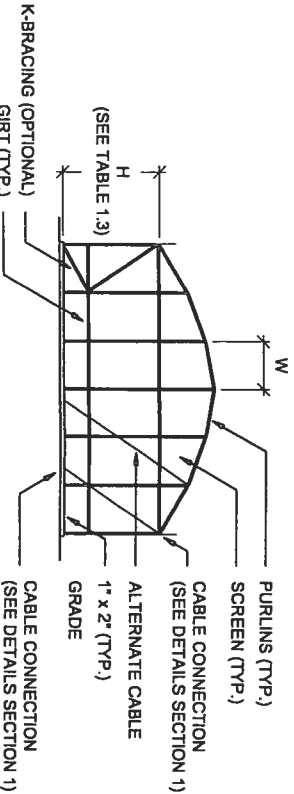
**TYPICAL NOMENCLATURE FOR SCREENED ENCLOSURES:**  
SCALE: N.T.S.

- H - MAXIMUM UPRIGHT HEIGHTS
- L - MAXIMUM BEAM SPAN WITHOUT KNEE BRACE
- (ADD HORIZONTAL LENGTH OF KNEE BRACE TO SPAN FROM TABLES)
- SW - SIDE WALLS CAN BE FRAMED WITHOUT TOP BEAM AND CAN BE SMALLEST EXTRUSIONS ALLOWED BY SPAN TABLES
- W - SCREEN PANEL SPACING

CONNECTION DETAILS AND NOTES ARE FOUND IN SUBSEQUENT PAGES.



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CONNECTION DETAILS AND NOTES ARE FOUND IN THE SUBSEQUENT PAGES.

THE DESIGNS AND SPANS SHOWN ON THESE DRAWINGS ARE BASED ON THE LOAD REQUIREMENTS FOR THE FLORIDA BUILDING CODE 2004 EDITION.

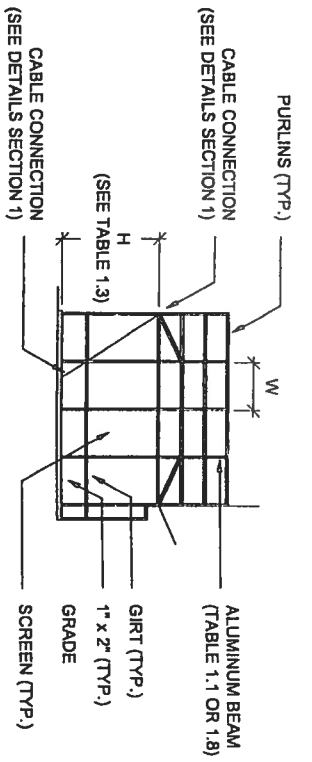
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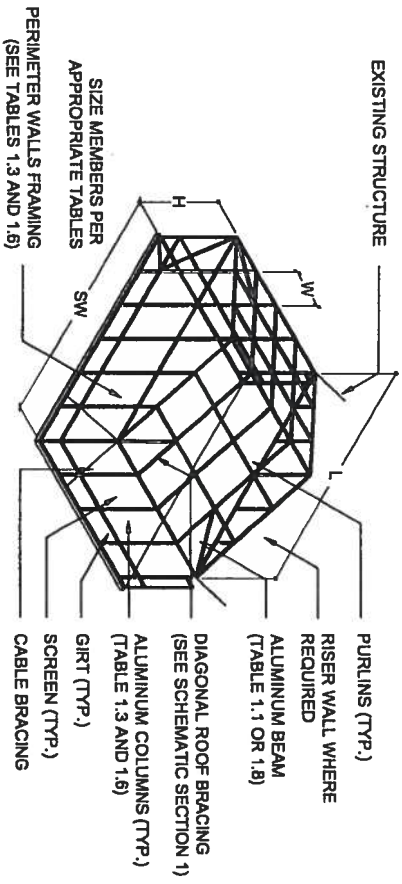
**Lawrence E. Bennett, P.E.**  
FL # 16644  
CIVIL ENGINEER - DEVELOPMENT CONSULTANT  
P.O. BOX 214388, SOUTH DAYTONA, FL 32121  
TELEPHONE: (386) 767-4774  
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**ALUMINUM STRUCTURES DESIGN MANUAL**  
SCREEN ENCLOSURES  
SECTION 1 DETAILS  
2004 FLORIDA BUILDING CODE  
MAY 2004 EDITION

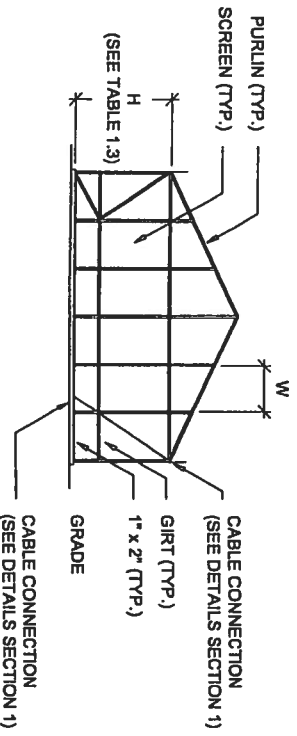
JOB NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
DRAWING FOR ONE PERMIT ONLY



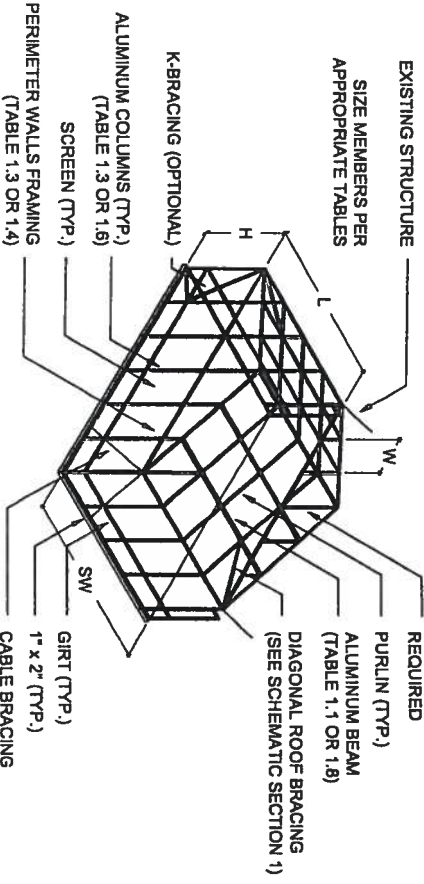
**TYPICAL GABLE ROOF - ELEVATION**  
SCALE: N.T.S.



**TYPICAL GABLE ROOF - ISOMETRIC**  
SCALE: N.T.S.

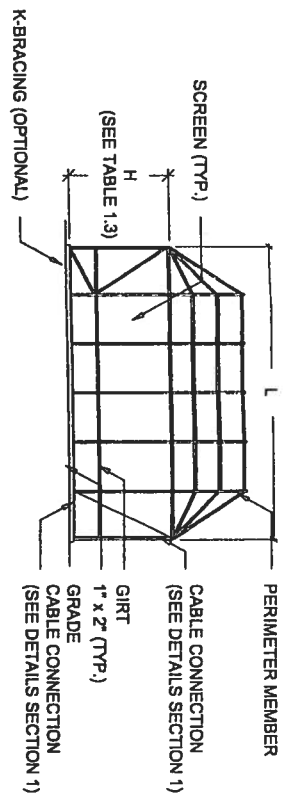


**TYPICAL TRANSVERSE GABLE ROOF - ELEVATION**  
SCALE: N.T.S.

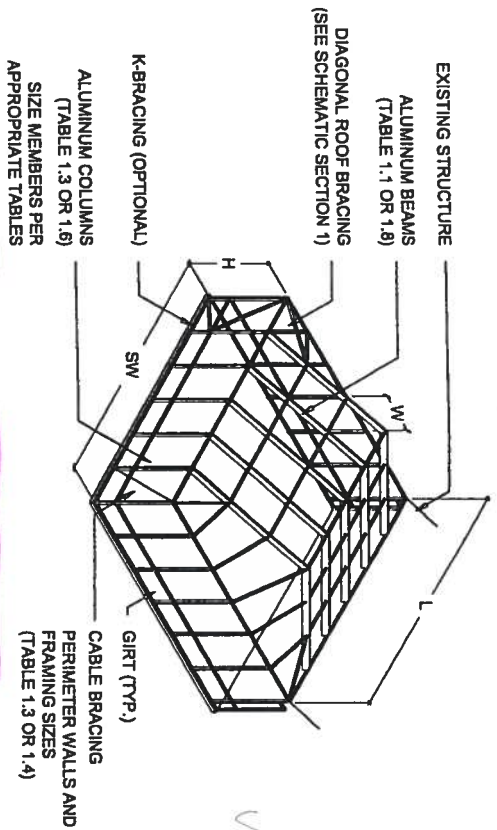


**TYPICAL TRANSVERSE GABLE ROOF - ISOMETRIC**  
SCALE: N.T.S.

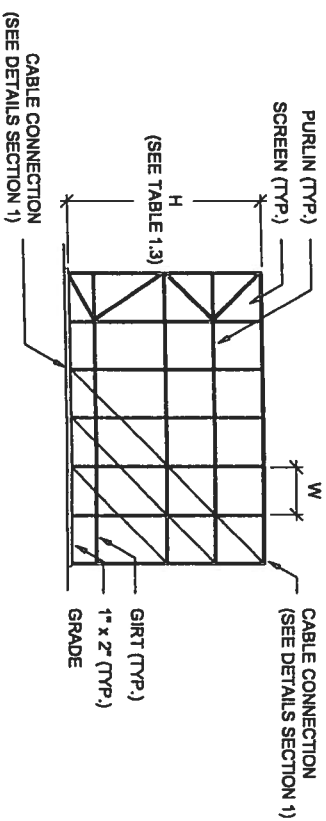
CONNECTION DETAILS AND NOTES ARE FOUND IN THE SUBSEQUENT PAGES



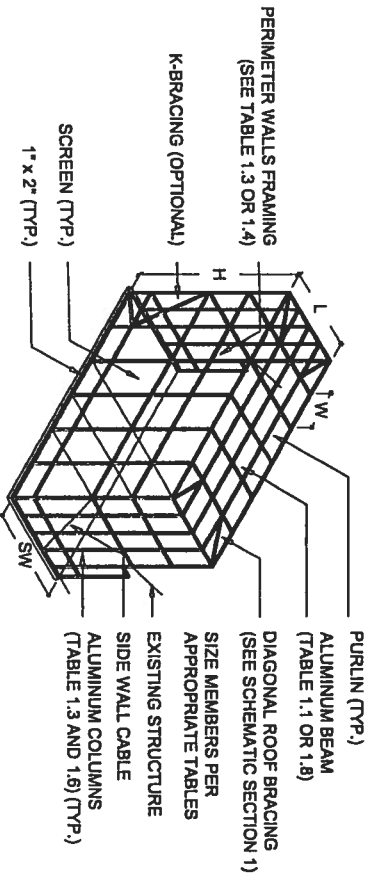
**TYPICAL MODIFIED HIP ROOF - ELEVATION**  
SCALE: N.T.S.



**TYPICAL MODIFIED HIP ROOF - ISOMETRIC**  
SCALE: N.T.S.

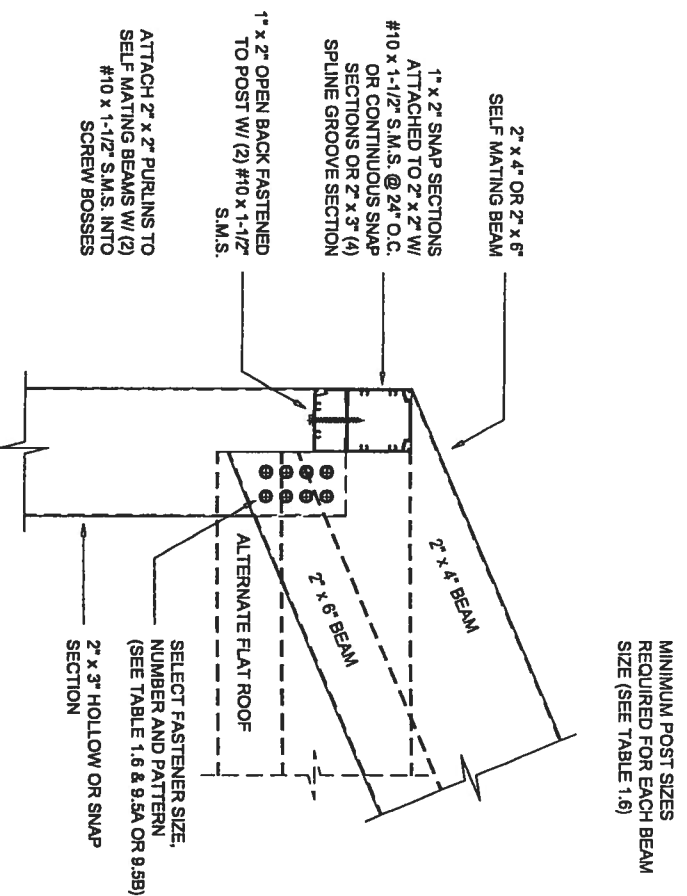


**TYPICAL TWO STORY POOL ENCLOSURE - ELEVATION**  
(ALL ROOF TYPES)  
SCALE: N.T.S.



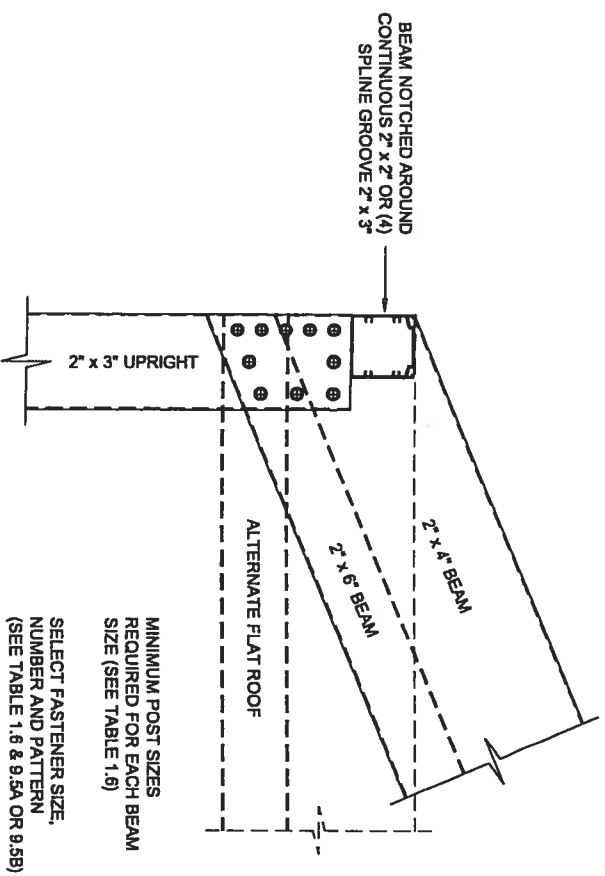
**TYPICAL TWO STORY POOL ENCLOSURE - ISOMETRIC**  
(ALL ROOF TYPES)  
SCALE: N.T.S.

CONNECTION DETAILS AND NOTES ARE FOUND IN THE SUBSEQUENT PAGES



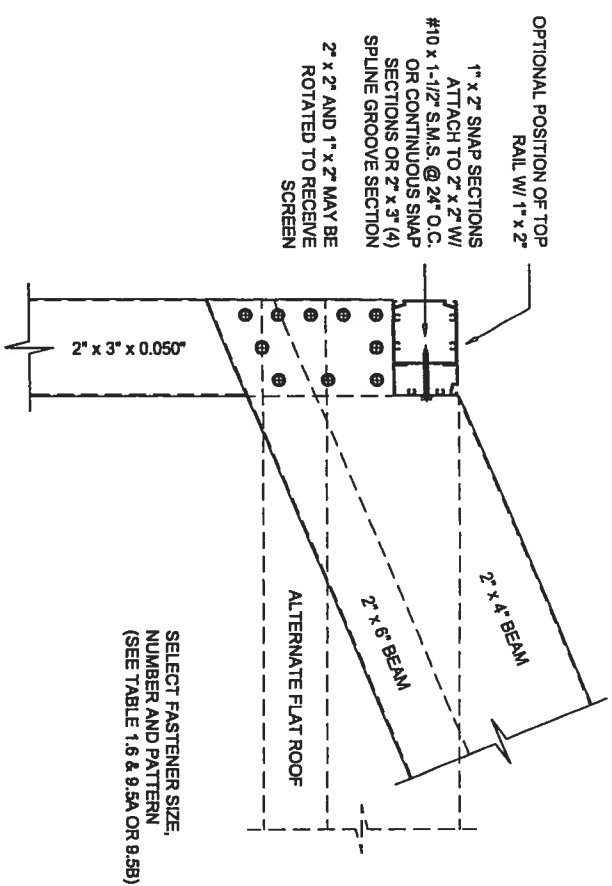
**SLOPING BEAM TO UPRIGHT CONNECTION DETAIL (PARTIAL LAP)**

SCALE: 3" = 1'-0"



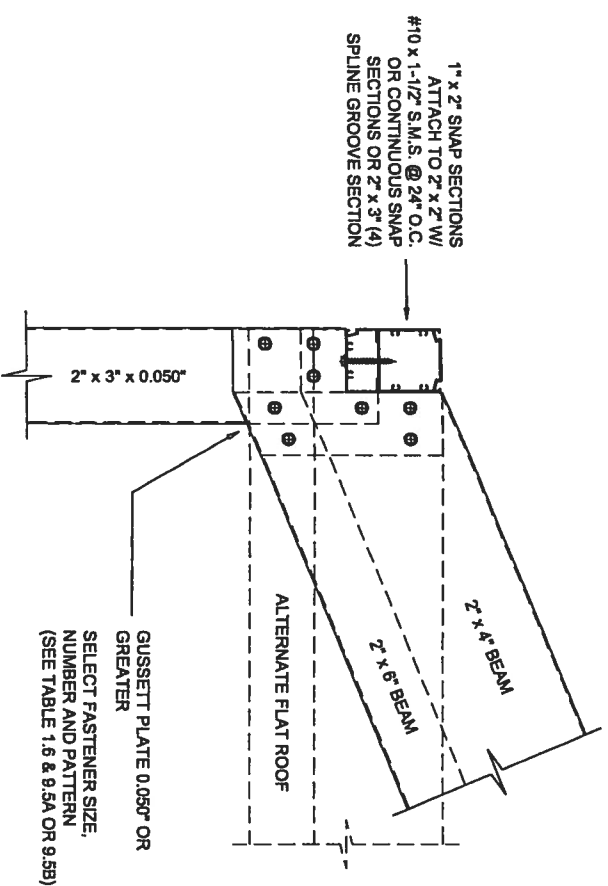
**2" x 4" BEAM TO 2" x 3" UPRIGHT CONNECTION DETAIL (FULL LAP)**

SCALE: 3" = 1'-0"



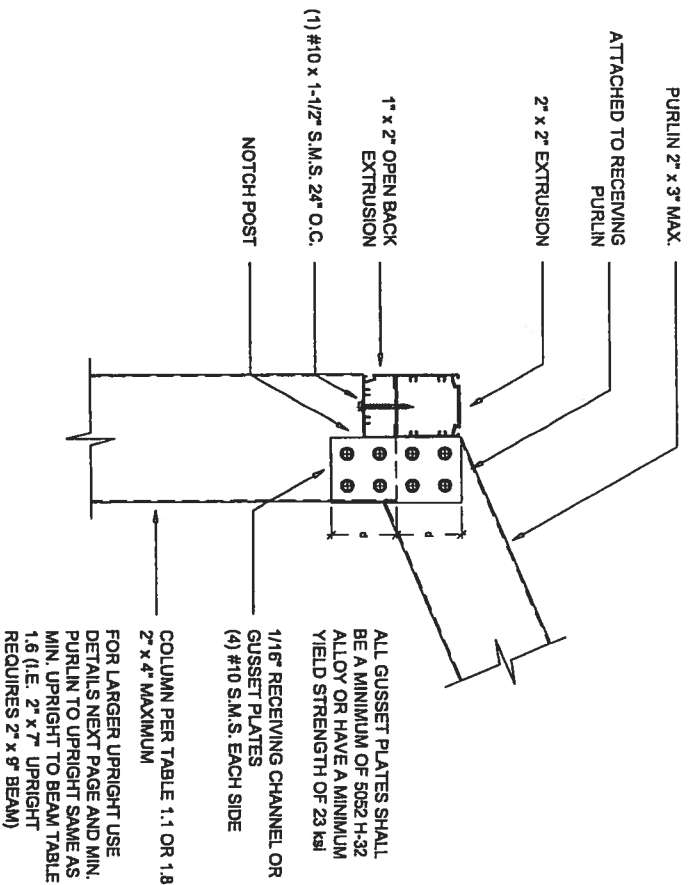
**2" x 4" BEAM TO 2" x 3" UPRIGHT CONNECTION DETAIL (FULL LAP) WITH GUSSET PLATE DETAIL (FULL LAP)**

SCALE: 3" = 1'-0"



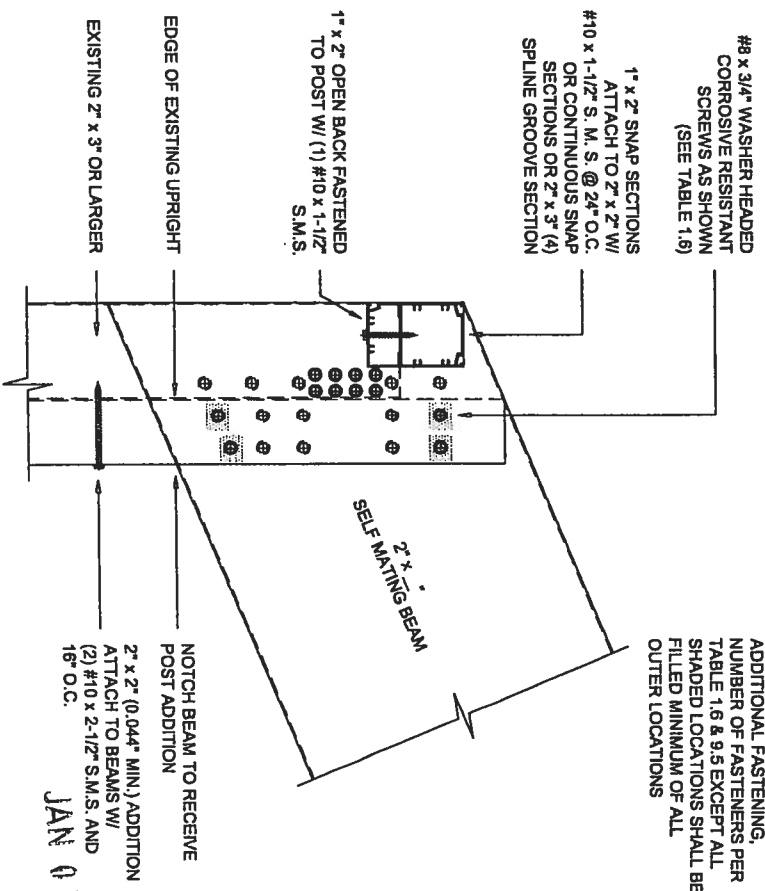
**ADDITION OF 2" x 2" TO EXISTING 2" x 3" UPRIGHT CONNECTION WITH GUSSET PLATE DETAIL (FULL LAP)**

SCALE: 3" = 1'-0"



**SIDE WALL TO PURLIN DETAIL**

SCALE: 3" = 1'-0"



**ADDITION OF 2" x 2" TO EXISTING 2" x 3" UPRIGHT CONNECTION**

SCALE: 3" = 1'-0"

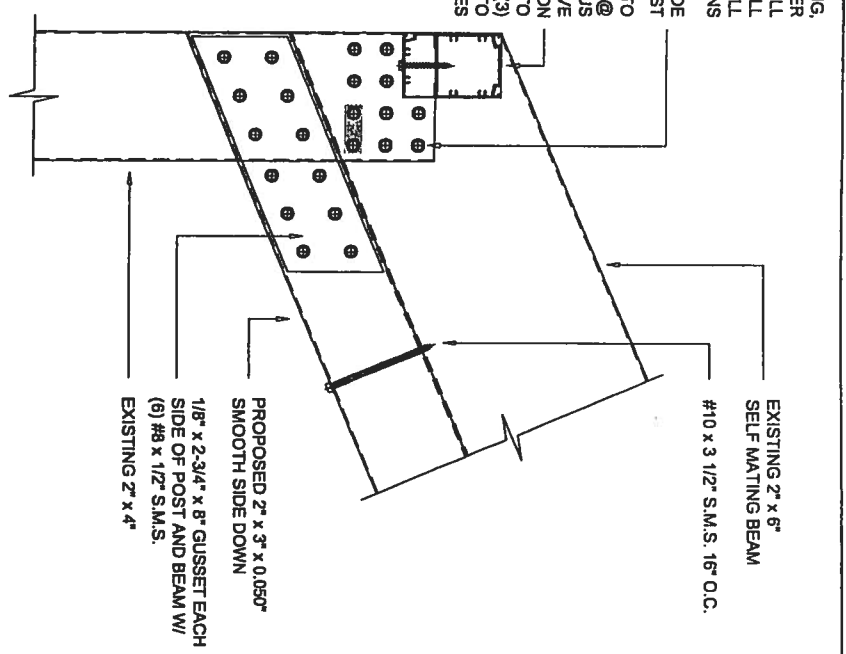
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ADDITIONAL FASTENING, NUMBER OF FASTENERS PER TABLE 1.6 & 9.5 EXCEPT ALL SHADED LOCATIONS SHALL BE FILLED MINIMUM OF ALL OUTER LOCATIONS

(10) #8 x 1/2" S.M.S. EACH SIDE OF BEAM / POST

1" x 2" OPEN BACK ATTACH TO 2" x 2" W/ #10 x 1-1/2" S.M.S. @ 24" O.C. OR CONTINUOUS 2" x 3" (4) SPLINE GROOVE SECTION

CONNECT 2" x 2" OR 2" x 3" TO BEAM W/ MIN. OF (3) #10 x 1-1/2" S.M.S. INTO SCREW BOSSES



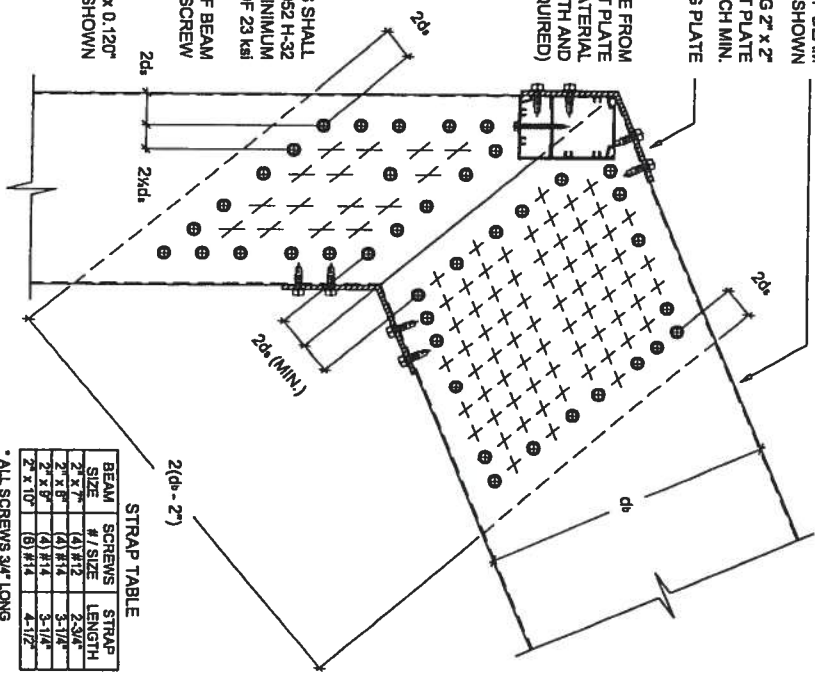
ADDITION OF 2" x 3" TO EXISTING 2" x 6" S.M.B.

SCALE: 2" = 1'-0"

2" x 6" x 0.072" x 0.224" BEAM SHOWN

WHEN FASTENING 2" x 2" THROUGH GUSSET PLATE USE #10 x 2" (3) EACH MIN. MENDING PLATE

1-3/4" STRAP MADE FROM REQUIRED GUSSET PLATE MATERIAL. (SEE TABLE FOR LENGTH AND # OF SCREWS REQUIRED)



BEAM SIZE	# / SIZE	LENGTH	STRAP SIZE	STRAP LENGTH
2" x 2"	(4) #12	2-3/4"	2-3/4"	3-1/4"
2" x 3"	(4) #14	3-1/4"	3-1/4"	4-1/2"
2" x 4"	(4) #14	3-1/4"	3-1/4"	4-1/2"
2" x 6"	(8) #14	4-1/2"	4-1/2"	4-1/2"

\* ALL SCREWS 3/4" LONG

ALL GUSSET PLATES SHALL BE A MINIMUM OF 5052 H-32 ALLOY OR HAVE A MINIMUM YIELD STRENGTH OF 23 ksi

db = DEPTH OF BEAM

ds = DIAMETER OF SCREW

2" x 6" x 0.050" x 0.120" UPRIGHT SHOWN

NOTES:

1. Fill outer screw positions first until required number of screws is achieved.
2. See Table 1.6 for screw size and number.
3. Gusset plates are required on all beams 2" x 7" and larger.
4. Screw pattern layout with spacing between screws greater than minimum is allowed so that equal spacing is achieved.

GUSSET PLATE SCREW PATTERN FOR BEAM TO GUSSET PLATE CONNECTION

SCALE: 2" = 1'-0"

1-3/4" STRAP MADE FROM REQUIRED GUSSET PLATE MATERIAL (SEE TABLE FOR LENGTH AND # OF SCREWS REQUIRED)

CONNECT 2" x 2" OR 2" x 3" TO BEAM W/ MIN. (3) #10 x 1-1/2" S.M.S. INTO SCREW BOSSES

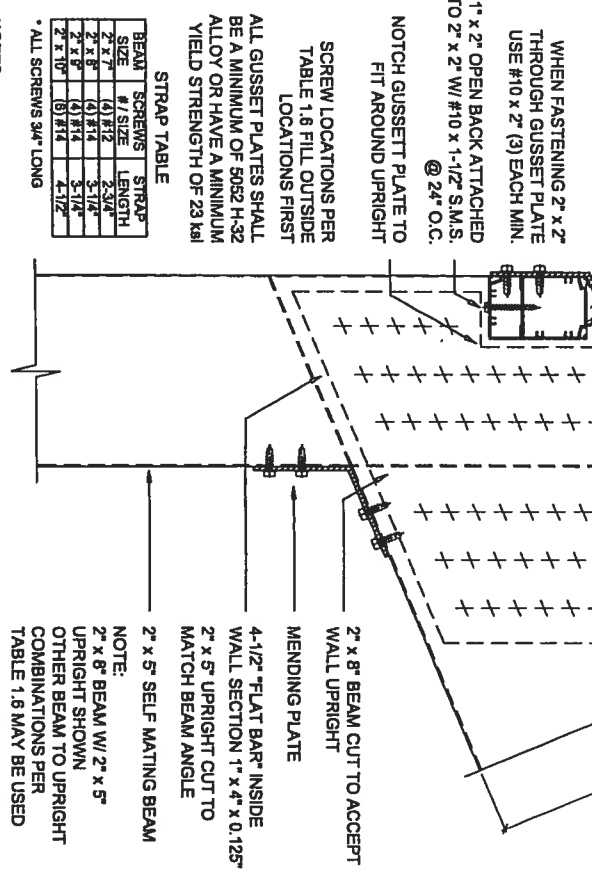
WHEN FASTENING 2" x 2" THROUGH GUSSET PLATE USE #10 x 2" (3) EACH MIN.

1" x 2" OPEN BACK ATTACHED TO 2" x 2" W/ #10 x 1-1/2" S.M.S. @ 24" O.C.

NOTCH GUSSET PLATE TO FIT AROUND UPRIGHT

SCREW LOCATIONS PER TABLE 1.6 FILL OUTSIDE LOCATIONS FIRST

ALL GUSSET PLATES SHALL BE A MINIMUM OF 5052 H-32 ALLOY OR HAVE A MINIMUM YIELD STRENGTH OF 23 ksi

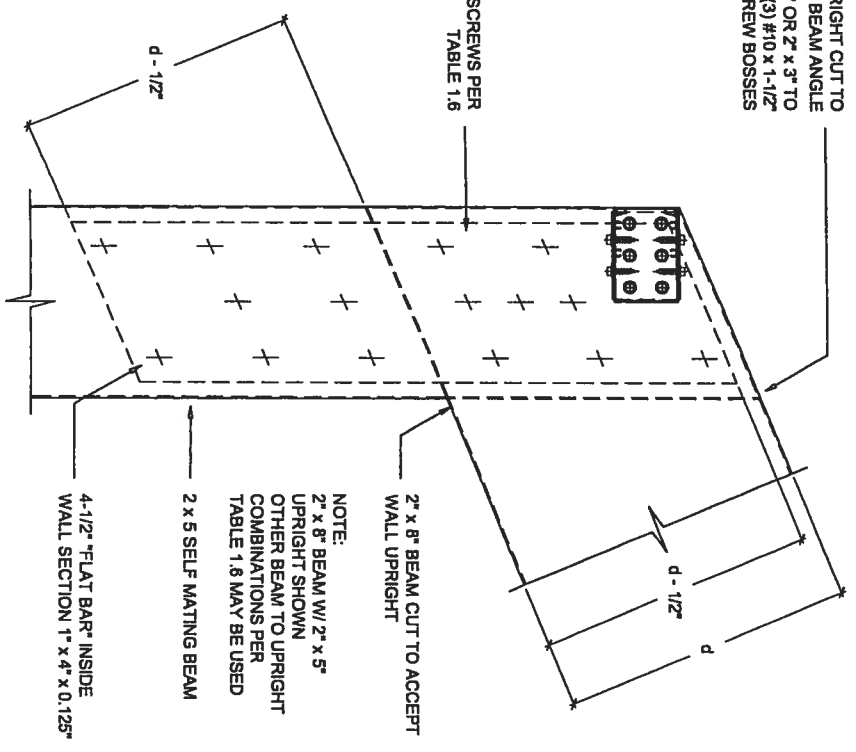


ALTERNATE BEAM TO GUSSET PLATE CONNECTION

SCALE: 2" = 1'-0"

2" x 5" UPRIGHT CUT TO MATCH BEAM ANGLE

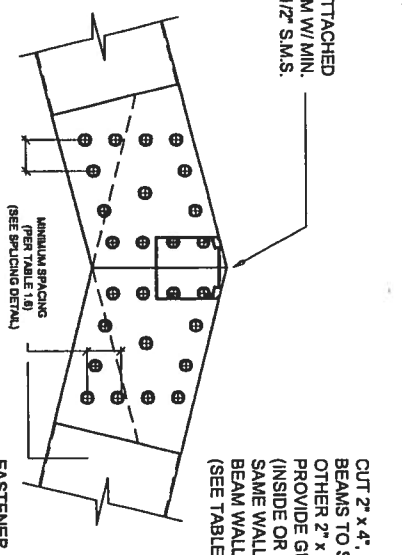
CONNECT 2" x 2" OR 2" x 3" TO BEAM W/ MIN. (3) #10 x 1-1/2" S.M.S. INTO SCREW BOSSES



ALTERNATE BEAM TO GUSSET PLATE CONNECTION

SCALE: 2" = 1'-0"

2" x 2" PURLINS ATTACHED TO BEAM W/ MIN. (3) #10 x 1-1/2" S.M.S.

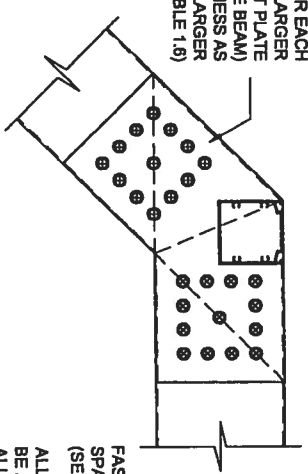


TYPICAL SIDE PLATE CONNECTION DETAIL

SCALE: 2" = 1'-0"

CUT 2" x 4", 2" x 5", OR 2" x 6" BEAMS TO SLIDE OVER EACH OTHER 2" x 7" & LARGER

PROVIDE GUSSET PLATE (INSIDE OR OUTSIDE BEAM) SAME WALL THICKNESS AS BEAM WALLS OR LARGER (SEE TABLE 1.6)

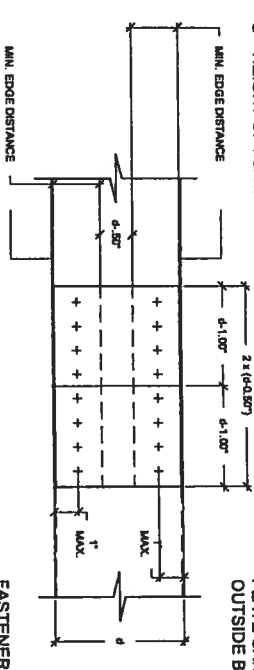


TYPICAL SIDE PLATE CONNECTION DETAIL - MANSARD ROOF

SCALE: 2" = 1'-0"

BEAM SPLICE SHALL BE MIN. BEAM HEIGHT MINUS 1/2" AND 2" x (d - .50") LENGTH

d = HEIGHT OF BEAM



TYPICAL BEAM SPLICE DETAIL

SCALE: 2" = 1'-0"

Screw Size (in.)	ds (in.)	Minimum Distance and Spacing of Screws		Gusset Plate Thickness
		Edge To Center	Center To Center	
#8	0.16	3/8	7/16	2" x 7" x 0.055" x 0.120"
#10	0.19	3/8	1/2	2" x 8" x 0.072" x 0.224"
#12	0.21	7/16	9/16	2" x 8" x 0.072" x 0.224"
#14	0.25	1/2	5/8	2" x 8" x 0.082" x 0.306"
#16	0.313	5/8	3/4	2" x 10" x 0.092" x 0.386"

\* Refers to each side of splice.

\*\* Use for 2" x 4" and 2" x 6" also

1. All gusset plates shall be a minimum 5052 H-32 Alloy or have a minimum yield of 23 ksi.

TYPICAL BEAM SPLICE DETAIL

SCALE: 2" = 1'-0"

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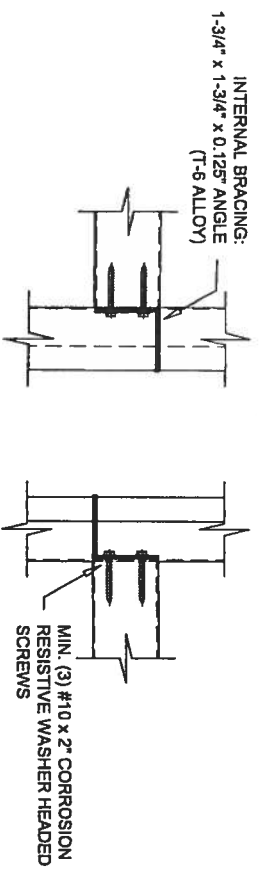
OF

14

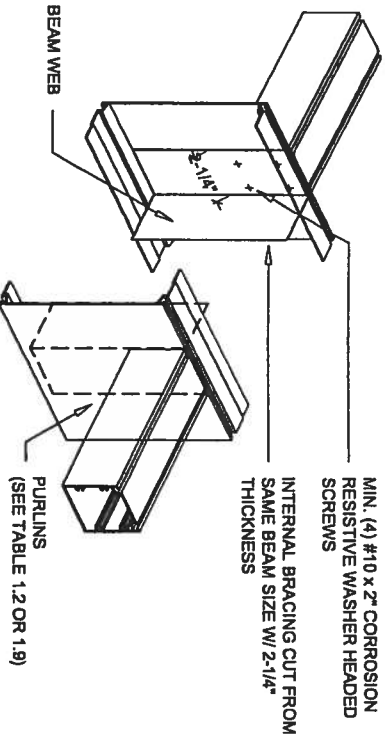
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SHEET 4

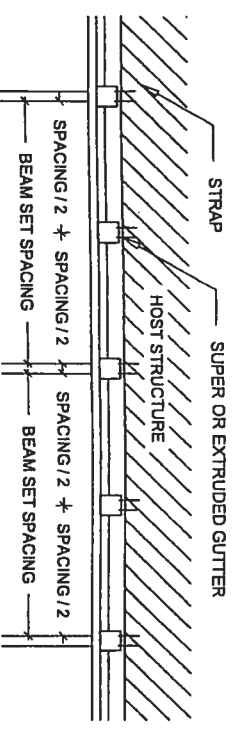


**PLAN VIEW**  
SCALE: 2" = 1'-0"

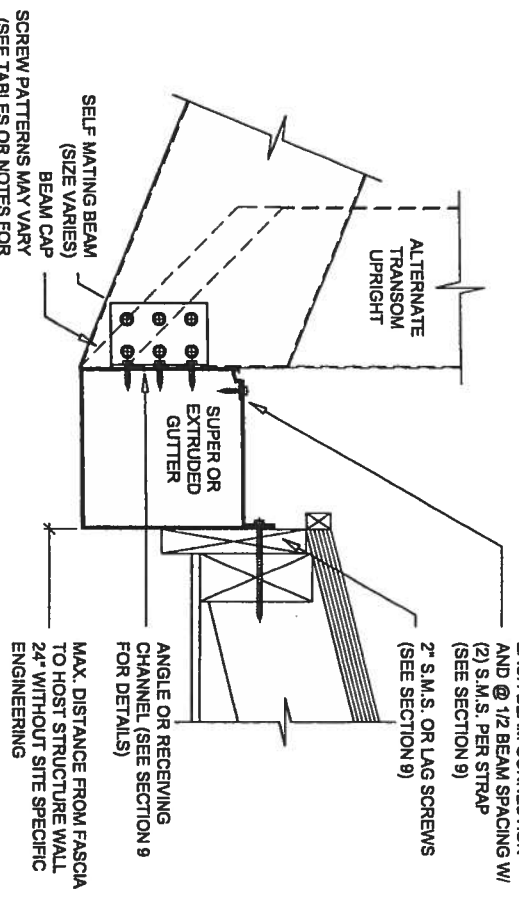


**ISOMETRIC VIEW**  
SCALE: N.T.S.

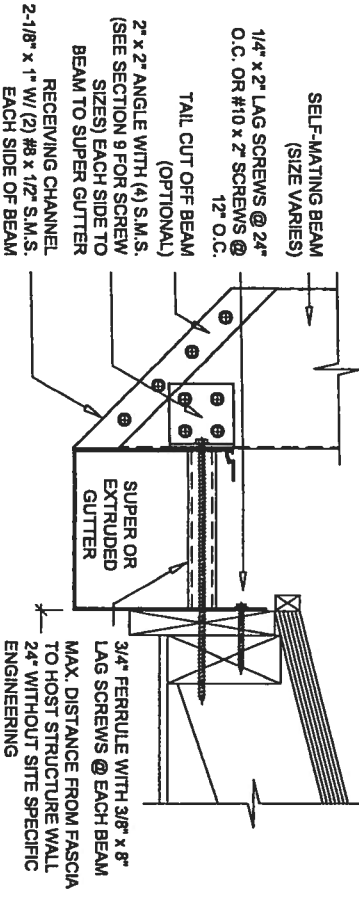
**LATERAL BEAM BRACING DETAILS (FOR SPANS GREATER THAN 40'-0")**



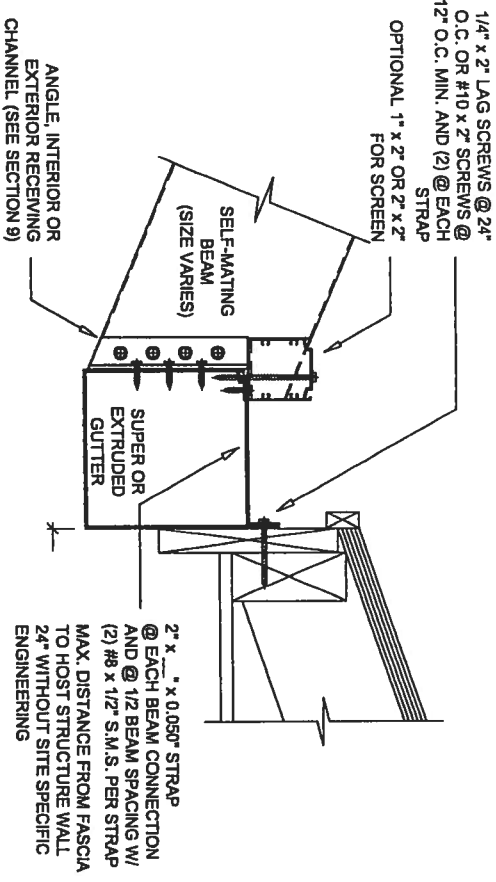
**STRAP LOCATION FOR SUPER OR EXTRUDED GUTTER REINFORCEMENT**  
SCALE: N.T.S.



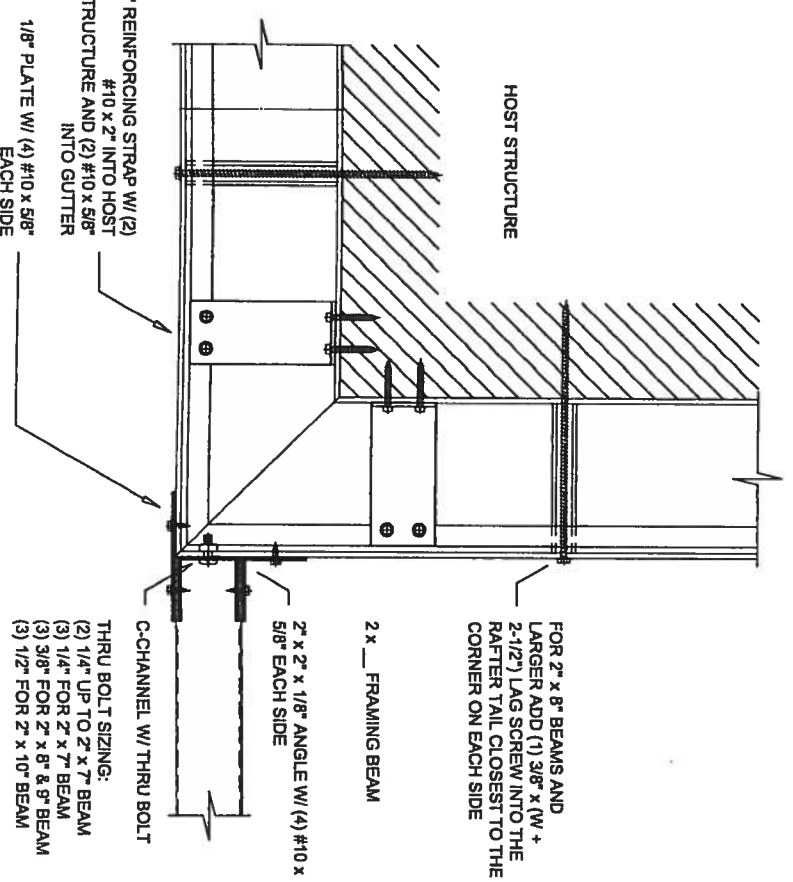
**SELF MATING BEAM CONNECTION TO SUPER OR EXTRUDED GUTTER**  
SCALE: 2" = 1'-0"



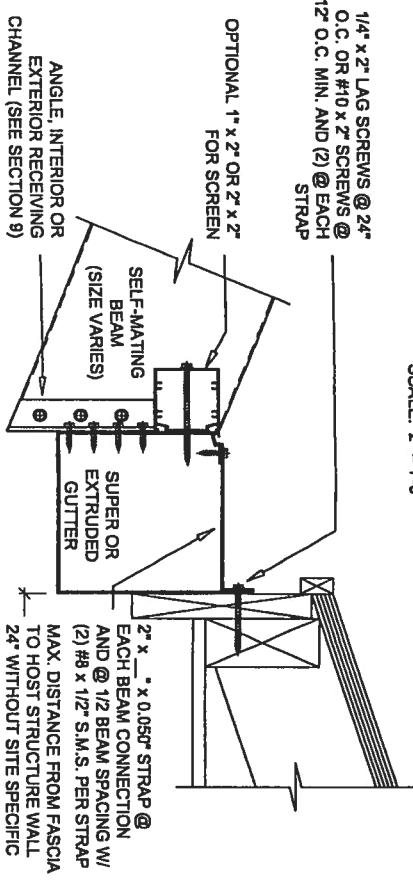
**SELF MATING BEAM AND SUPER OR EXTRUDED GUTTER CONNECTION**  
SCALE: 2" = 1'-0"



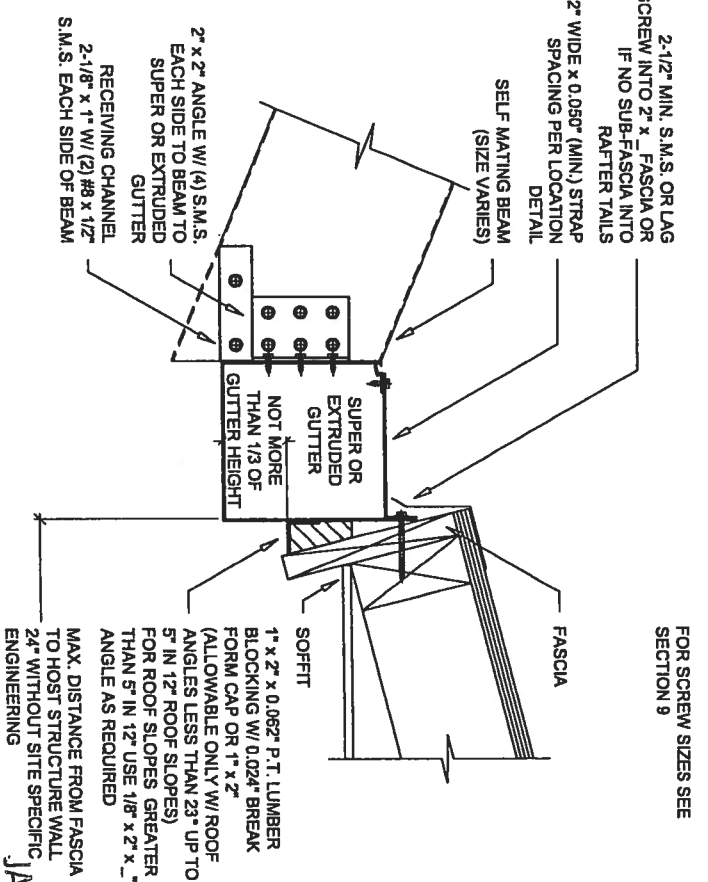
**ALTERNATE SELF MATING BEAM CONNECTION TO SUPER OR EXTRUDED GUTTER**  
SCALE: 2" = 1'-0"



**OUTER MITER DETAIL FOR SUPER GUTTER TO CARRIER BEAM**  
SCALE: 2" = 1'-0"



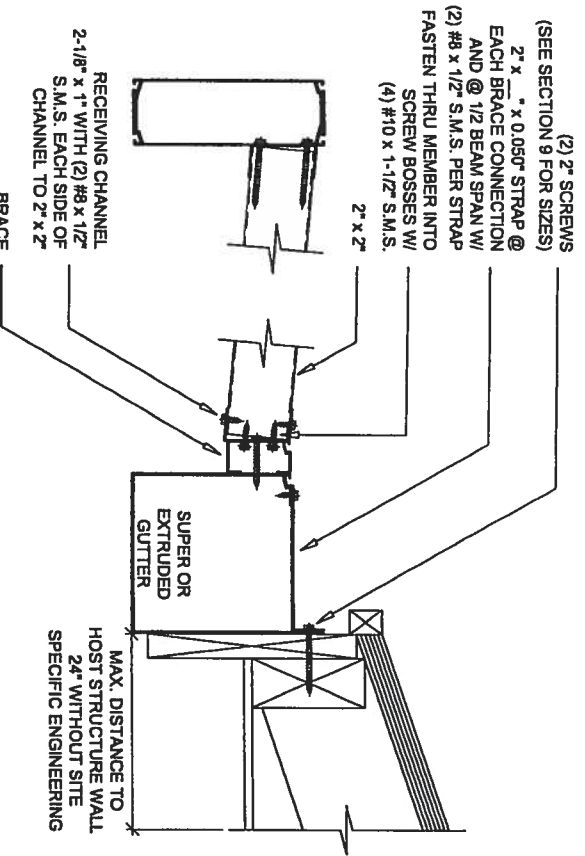
**SELF MATING BEAM CONNECTION TO SUPER OR EXTRUDED GUTTER**  
SCALE: 2" = 1'-0"



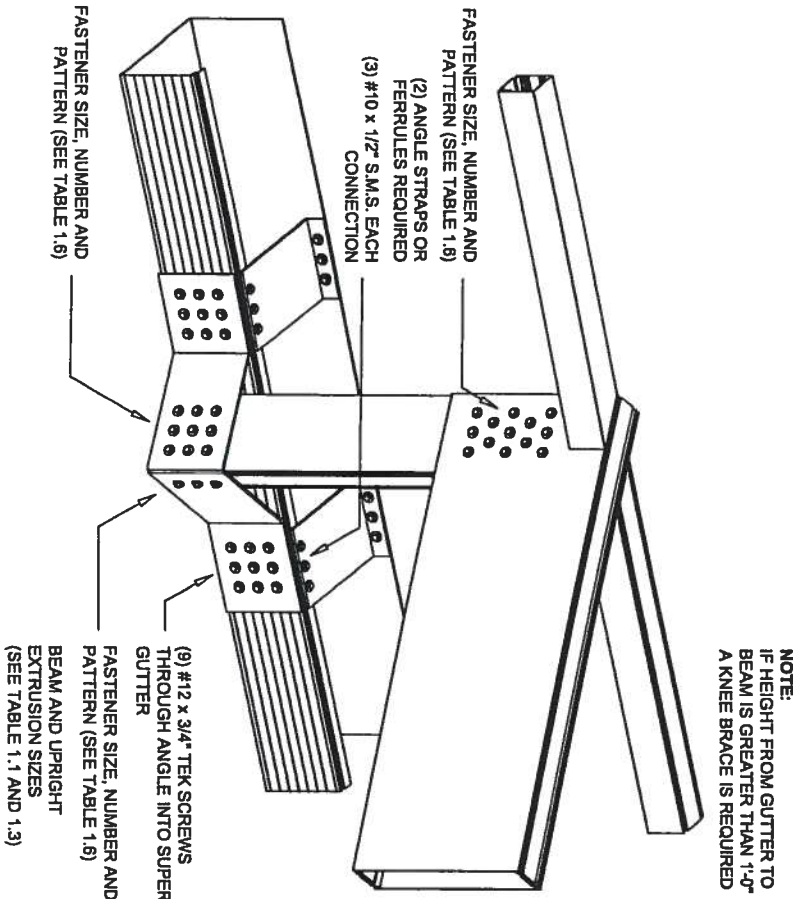
**TYPICAL SELF MATING BEAM AND SUPER OR EXTRUDED GUTTER CONNECTION**  
SCALE: 2" = 1'-0"

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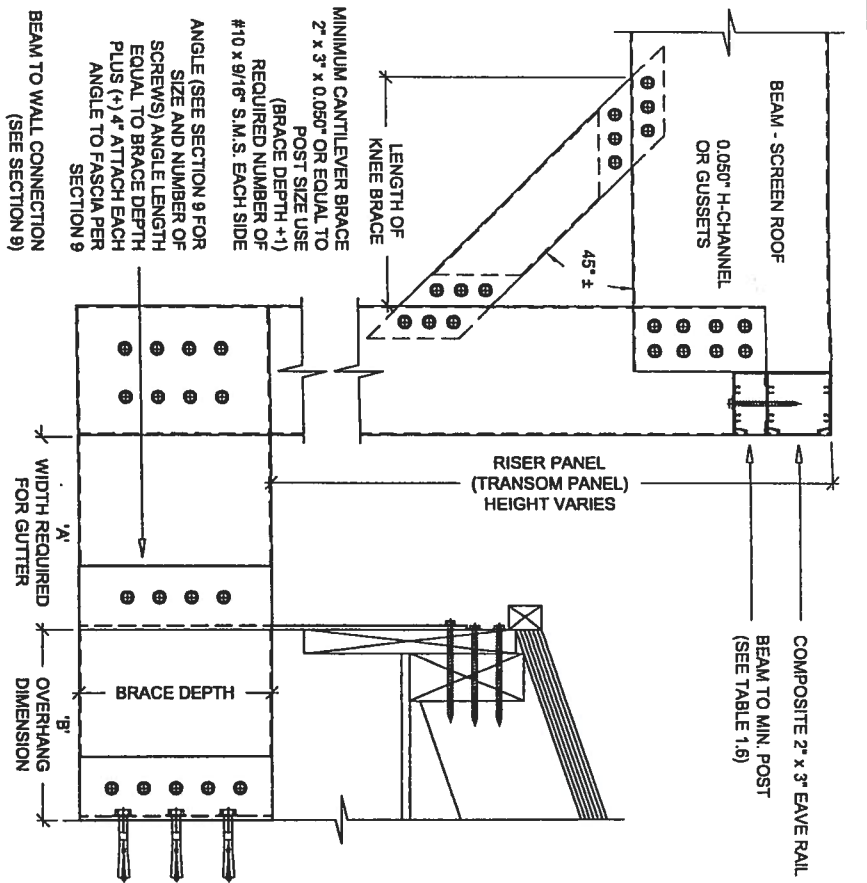




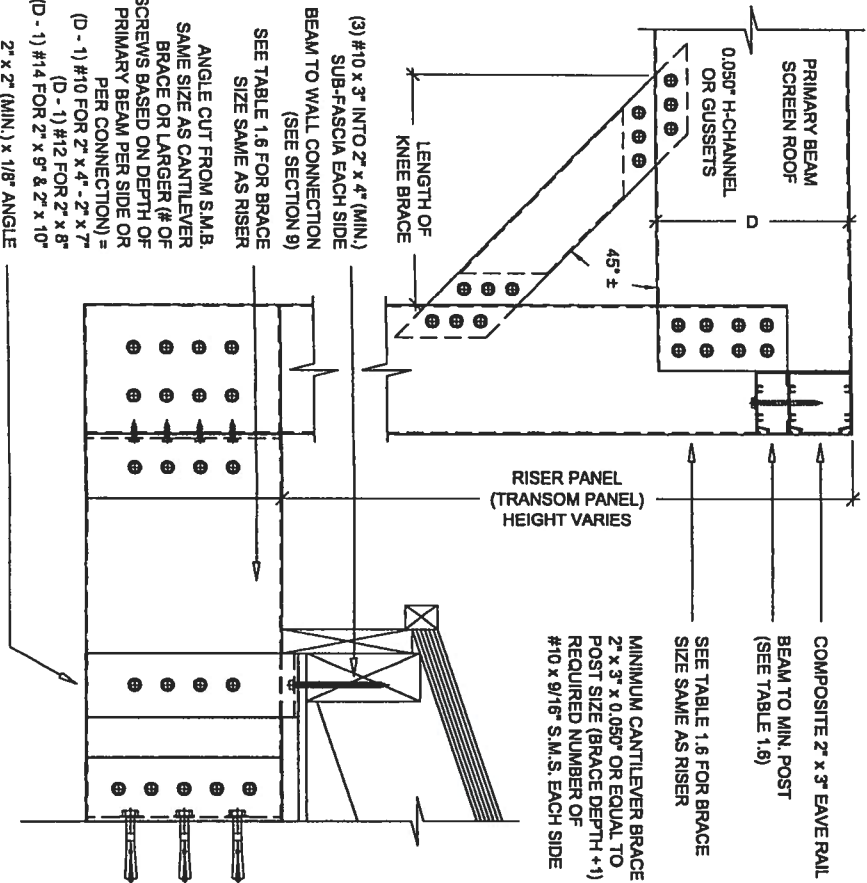
**NON-STRUCTURAL BRACE CONNECTION TO SUPER OR EXTRUDED GUTTER**  
SCALE: 2" = 1'-0"



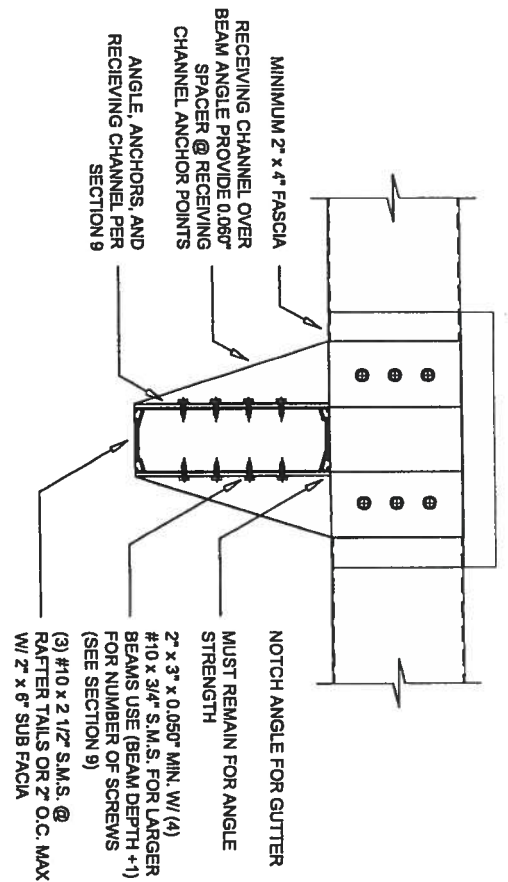
**SUPER GUTTER TO UPRIGHT WITH ANGLE CONNECTION DETAIL**  
SCALE: N.T.S.



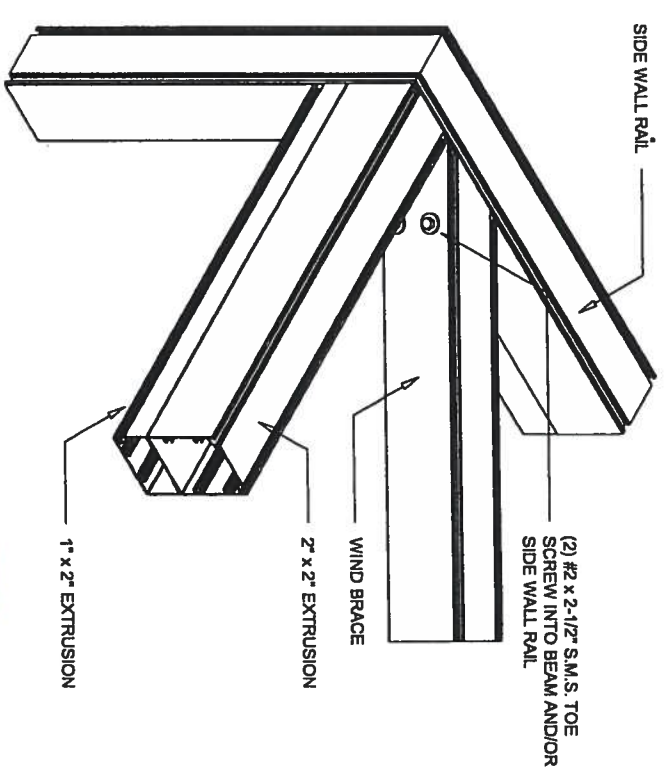
**CANTILEVERED BRACE CONNECTION TO WALL AND FASCIA DETAIL**  
SCALE: 2" = 1'-0"



**ALTERNATE CANTILEVERED BRACE CONNECTION TO WALL AND FASCIA DETAIL**  
SCALE: 2" = 1'-0"



**CANTILEVERED BRACE CONNECTION AT FASCIA (END VIEW)**  
SCALE: 2" = 1'-0"



**WIND BRACE CONNECTION DETAIL**  
SCALE: 2" = 1'-0"

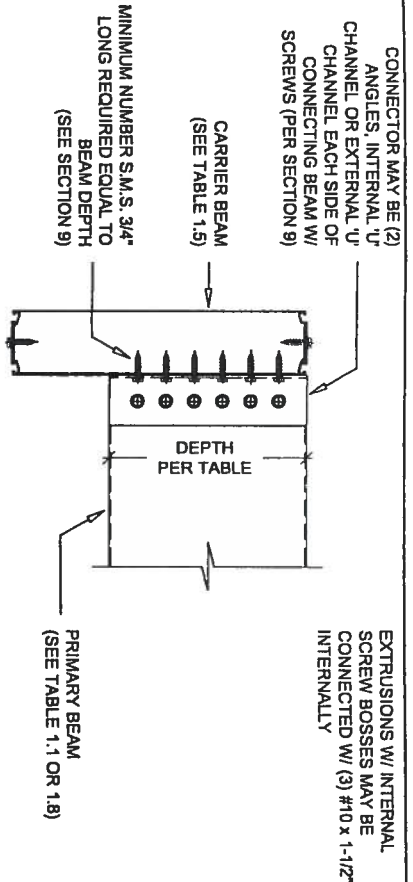
NOTES:  
1. Wind bracing shall be provided at each side wall panel when enclosure projects more than (4) panels from host structure.

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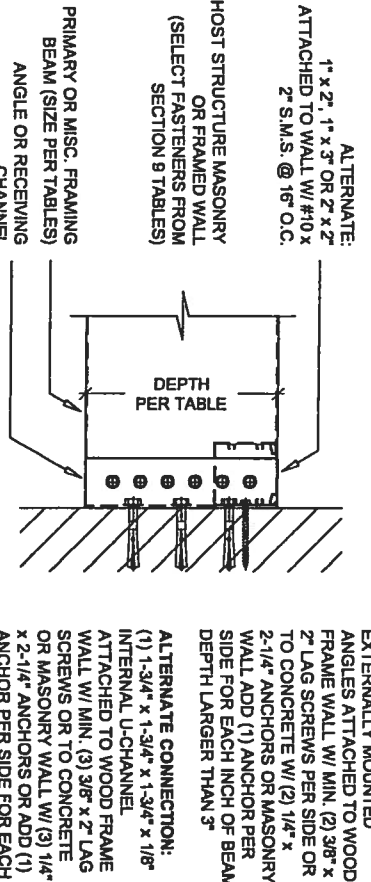
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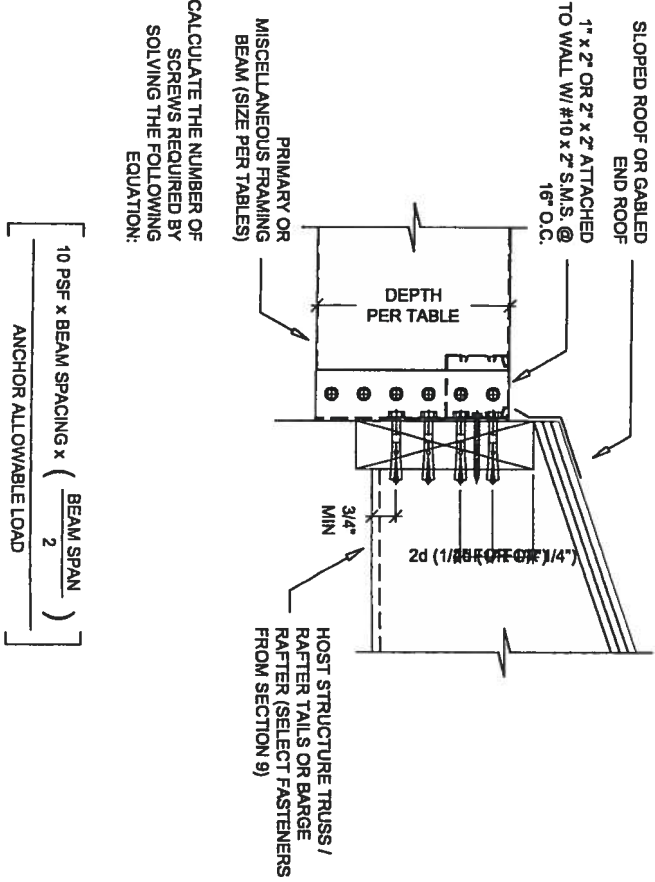
**CARRIER BEAM TO BEAM CONNECTION DETAIL**

SCALE: 2" = 1'-0"



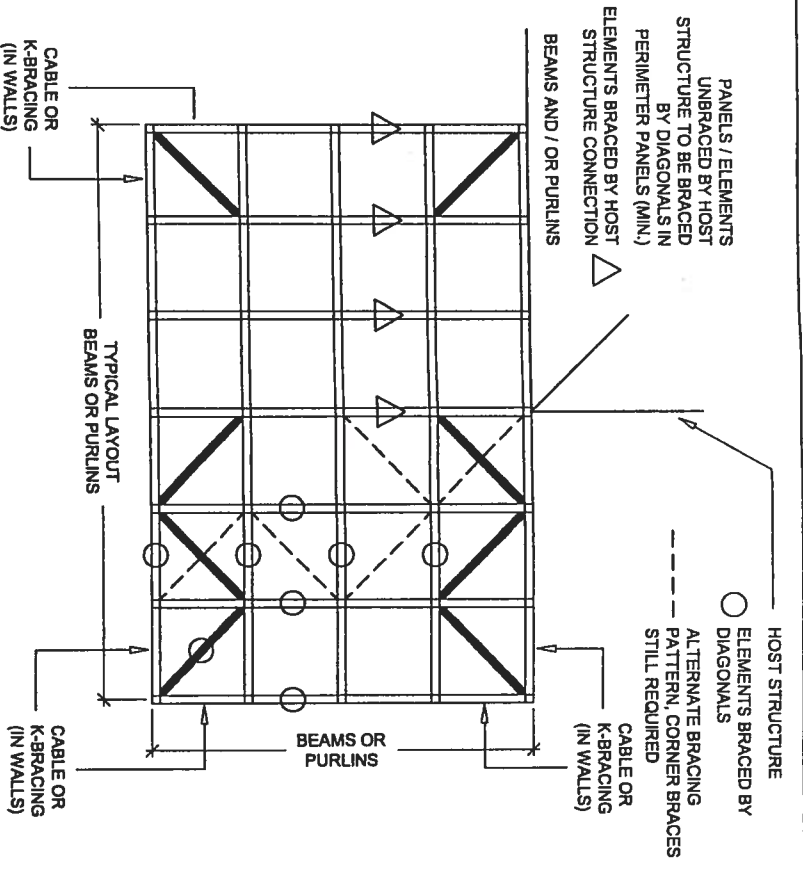
**BEAM TO WALL CONNECTION DETAIL**

SCALE: 2" = 1'-0"



**BEAM TO FASCIA CONNECTION DETAIL**

SCALE: 2" = 1'-0"



**POOL ENCLOSURE DIAGONAL BRACING - SCHEMATIC PLAN VIEW**

SCALE: 1/4" = 1'-0"

**General Notes and Specifications:**

- The following shall apply to the installation of cables as additional bracing to DIAGONAL bracing for pool enclosures:
  - FRONT WALL CABLES - 7 x 7 OR 7 x 19 STAINLESS STEEL
 

CABLE DIAMETER	TOTAL ALLOWABLE WALL AREA*
3/32"	233 Sq. Ft. / PAIR OF CABLES
1/8"	445 Sq. Ft. / PAIR OF CABLES

\* TOTAL WALL AREA = 100% OF FRONT WALL + 50% OF ONE SIDE WALL

EXAMPLE: FRONT WALL AREA @ 100% (8' x 32') = 256 Sq. Ft.  
SIDE WALL AREA @ 50% (8' x 20') = 80 Sq. Ft.  
TOTAL WALL AREA = 336 Sq. Ft.

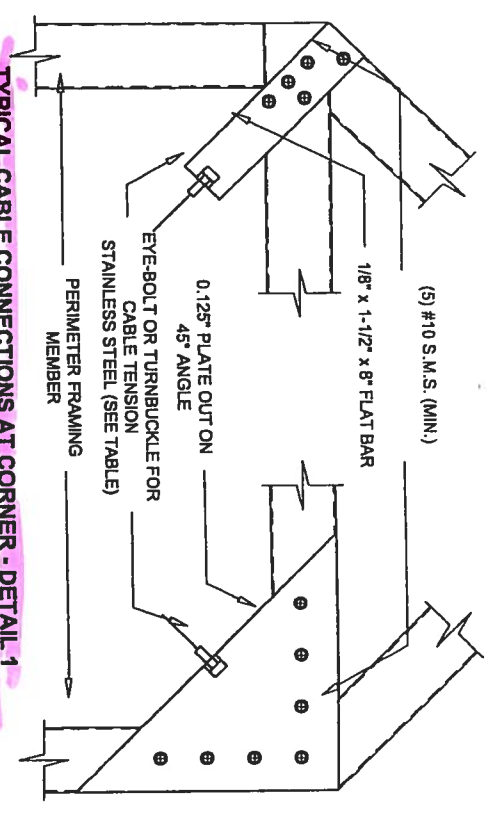
233 Sq. Ft. x 2 sets = 466 Sq. Ft. > 336 Sq. Ft.; thus two sets of 3/32" cables is required.
  - SIDE WALL CABLES - 7 x 7 OR 7 x 19 STAINLESS STEEL
 

CABLE DIAMETER	SIDE WALL CABLE**
3/32"	ONE PER 233 Sq. Ft. OF WALL
1/8"	ONE PER 445 Sq. Ft. OF WALL

\*\* SIDE WALL CABLES ARE NOT REQUIRED FOR SIDE WALLS LESS THAN 233 Sq. Ft.
  - To calculate the required pair of cables for free standing pool enclosures use 100% of each wall area & 50% of the area of one adjacent wall.

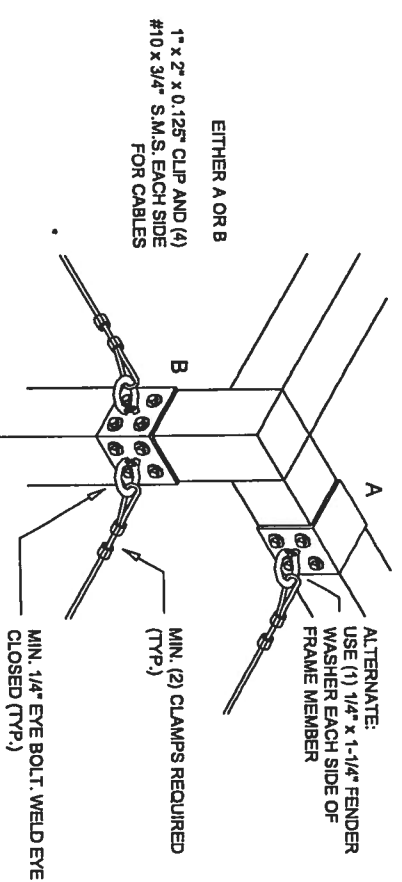
**NOTES:**

- Where wall height is such that a girt is required between the top or eave rail and the chair rail, (i.e. a mid-rise girt), then the front wall shall have two cable pairs and they shall be attached to the top rail and the mid-rise rail. If more than one additional girt is required between the top or eave rail and the chair rail, then there shall be an additional front wall cable pair at that girt also.
- Side walls do not require cables until the side wall area is greater than 233 Sq. Ft.. The side wall cable may be attached at the mid-rise girt or the top rail.
- Standard rounding of rules apply, i.e. if the number of cables calculated is less than 2.5 pairs use two cables, if the number of cables calculated is 2.5 pairs or greater use 3 pairs of cables.



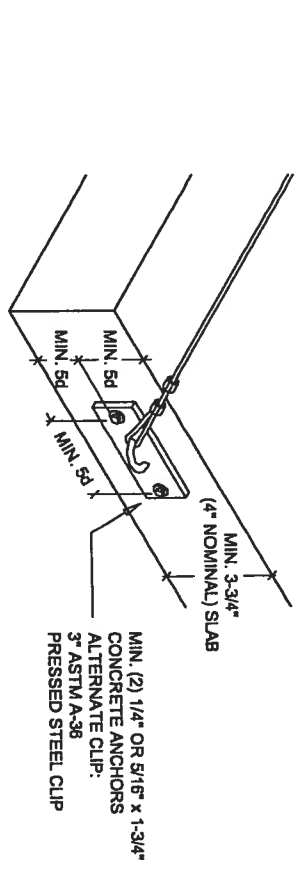
**TYPICAL CABLE CONNECTIONS AT CORNER - DETAIL 1**

SCALE: 2" = 1'-0"



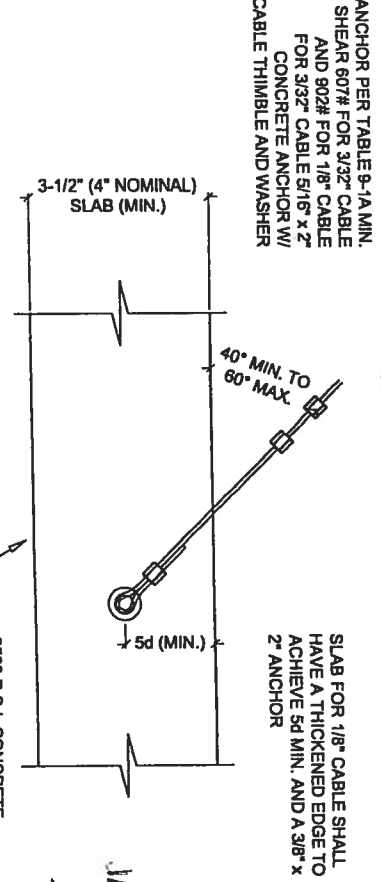
**ALTERNATE TOP CORNER OF CABLE CONNECTION - DETAIL 1A**

SCALE: 2" = 1'-0"



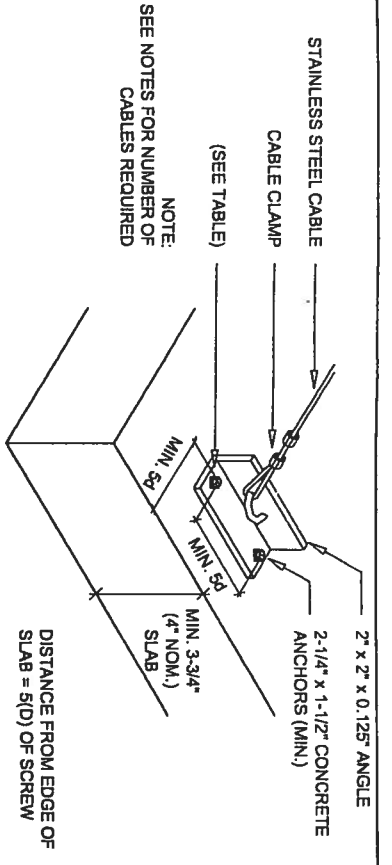
**TYPICAL CABLE CONNECTION AT SLAB DETAIL - DETAIL 2**

SCALE: 2" = 1'-0"

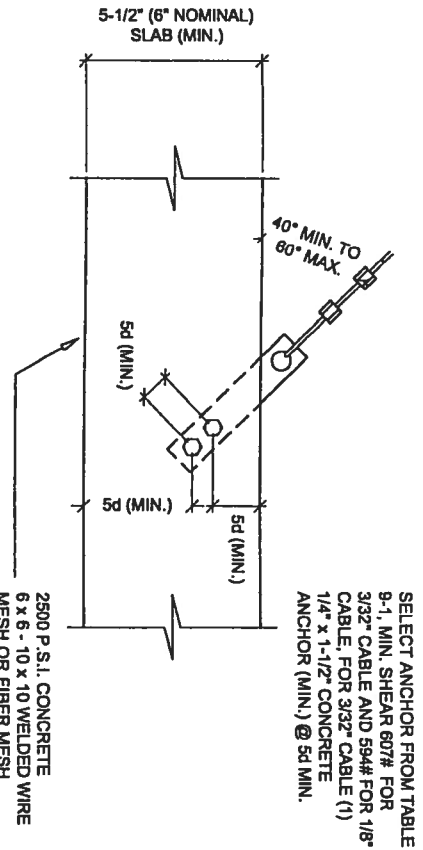


**ALTERNATE CABLE CONNECTIONS AT FOUNDATION - DETAIL 2A**

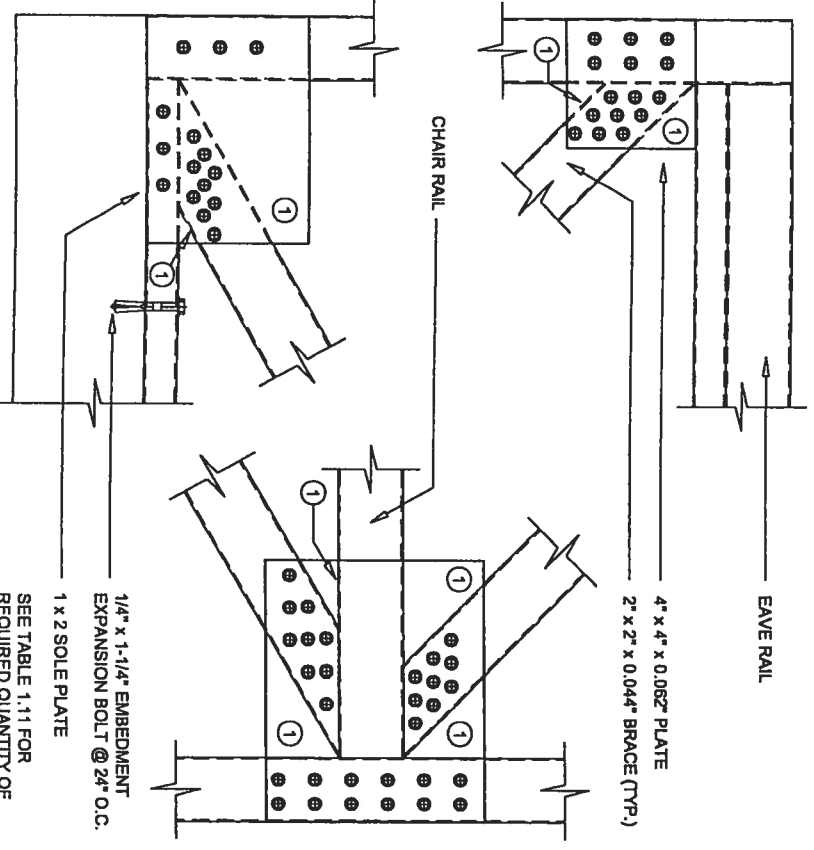
SCALE: 2" = 1'-0"



**ALTERNATE CABLE CONNECTION AT SLAB DETAIL - DETAIL 2B**  
SCALE: 2" = 1'-0"

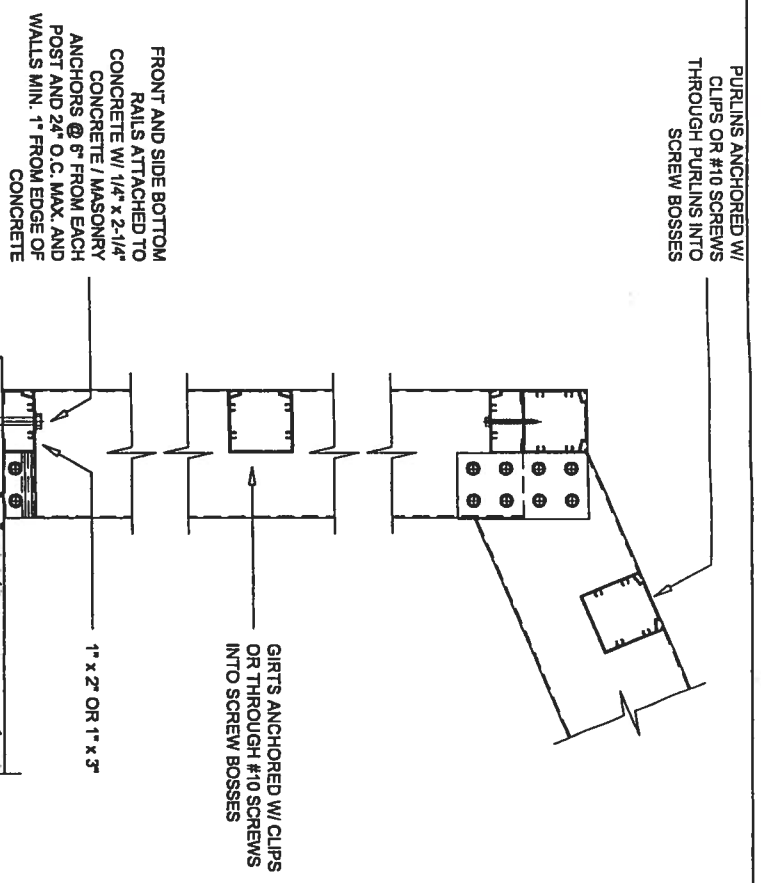


**ALTERNATE CABLE CONNECTIONS AT FOUNDATION - DETAIL 2C**  
SCALE: 2" = 1'-0"

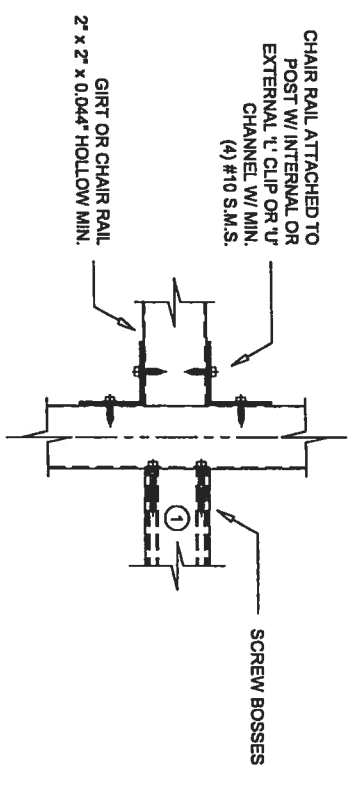


**K-BRACING CONNECTION DETAILS**  
SCALE: 2" = 1'-0"

- NOTES:  
1. Can trim plate this area.  
2. Alternate connections use "H" bar cut to fit connectors.

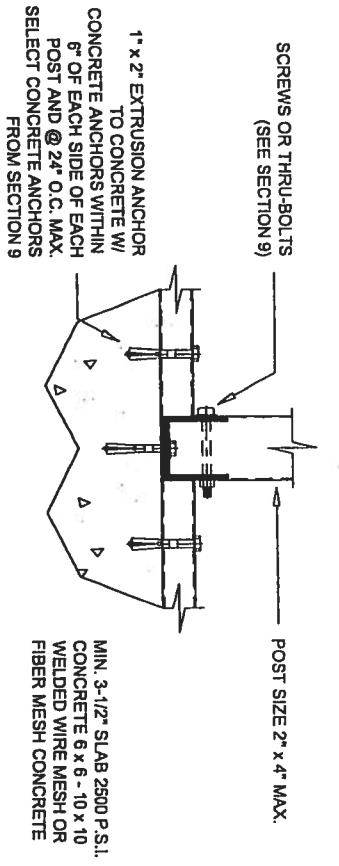


**PURLIN & CHAIR RAIL DETAIL**  
SCALE: 2" = 1'-0"

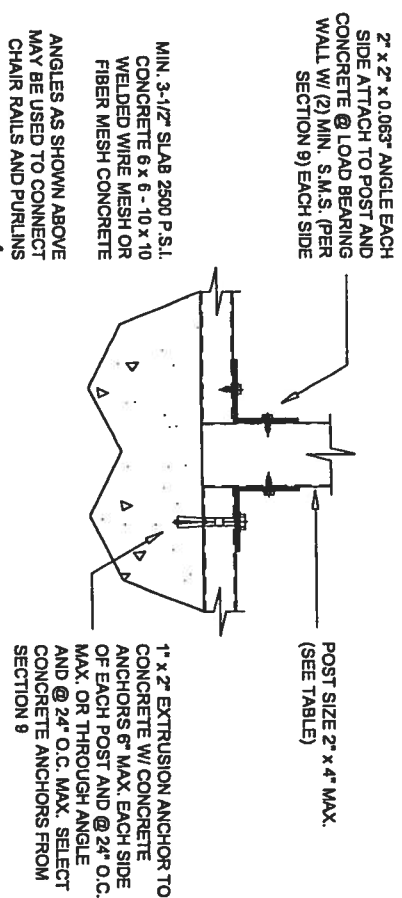


**GIRT TO POST DETAIL**  
SCALE: 2" = 1'-0"

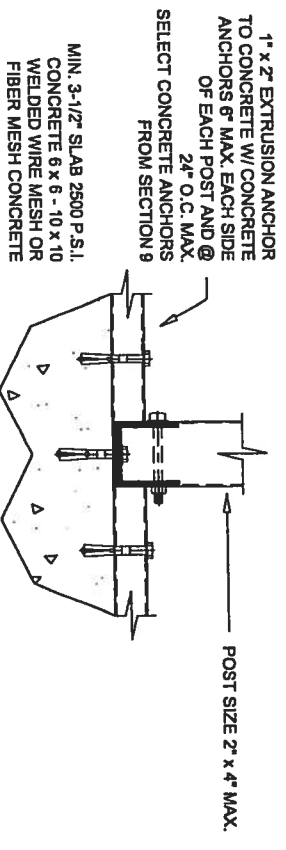
1. FOR WALLS LESS THAN 6'-6" FROM TOP OF PLATE TO CENTER OF BEAM CONNECTION OR BOTTOM OF TOP RAIL, THE BEAM AND GIRT ARE DECORATIVE SCREW HEADS MUST BE REMOVED AND INSTALLED IN PILOT HOLES  
IF GIRT IS STRUCTURAL, AND SCREW HEADS ARE REMOVED THEN THE OUTSIDE OF THE CONNECTION MUST BE STRAPPED FROM GIRT TO BEAM WITH 0.050" x 1-3/4" x 4" STRAP AND (4) #10 x 3/4" S.M.S. SCREWS TO POST AND GIRT  
IF GIRT IS ON BOTH SIDES OF THE POST THEN STRAP SHALL BE 6' LONG AND CENTERED ON THE POST AND HAVE A TOTAL (12) #10 x 3/4" S.M.S.



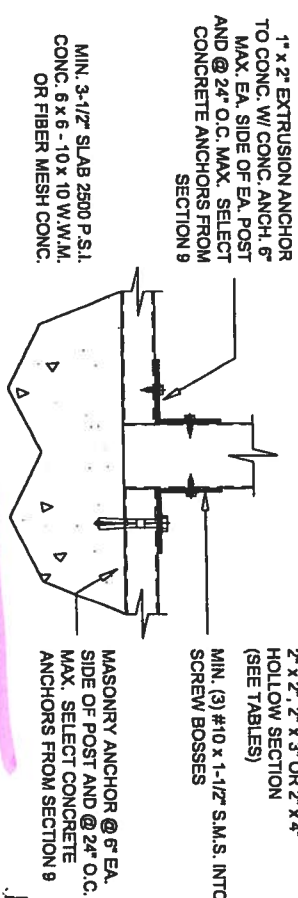
**POST TO PLATE TO CONCRETE DETAIL**  
SCALE: 2" = 1'-0"



**ALTERNATE POST TO BEAM AND PLATE TO CONCRETE DETAIL**  
SCALE: 2" = 1'-0"



**SIDE WALL POST TO PLATE TO CONCRETE DETAIL**  
SCALE: 2" = 1'-0"



**SIDE WALL HOLLOW POST TO BASE DETAIL**  
SCALE: 2" = 1'-0"

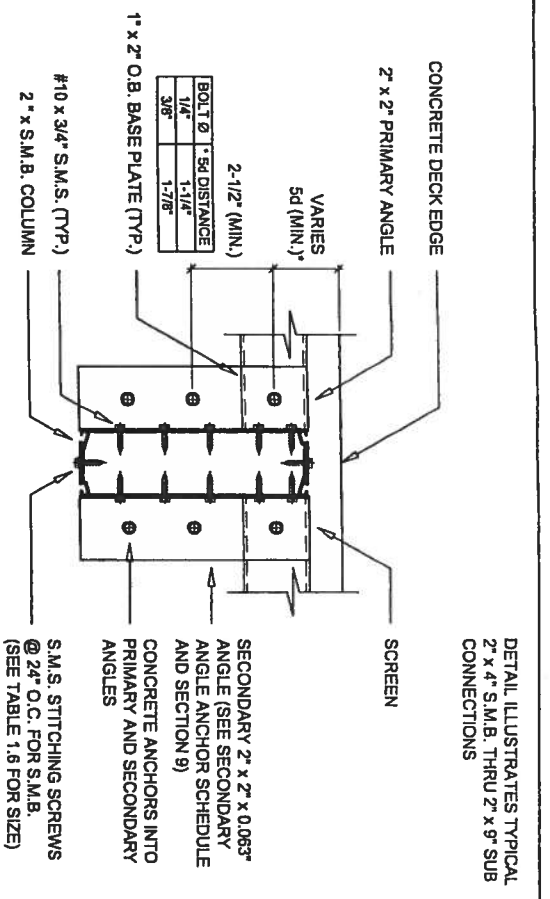
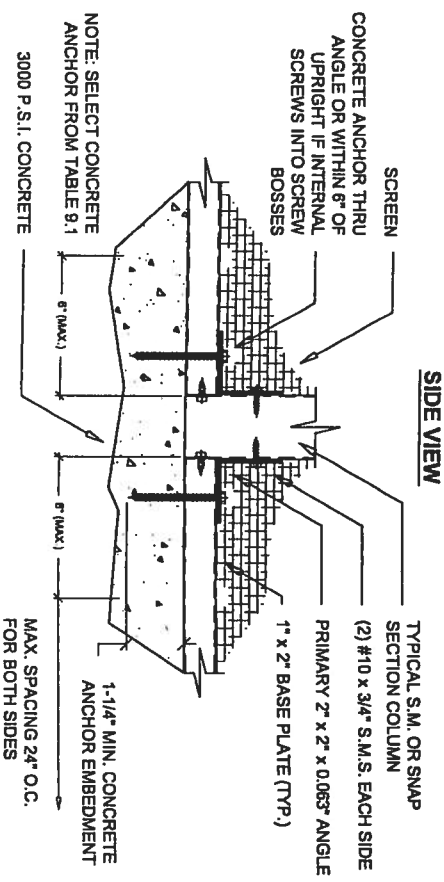
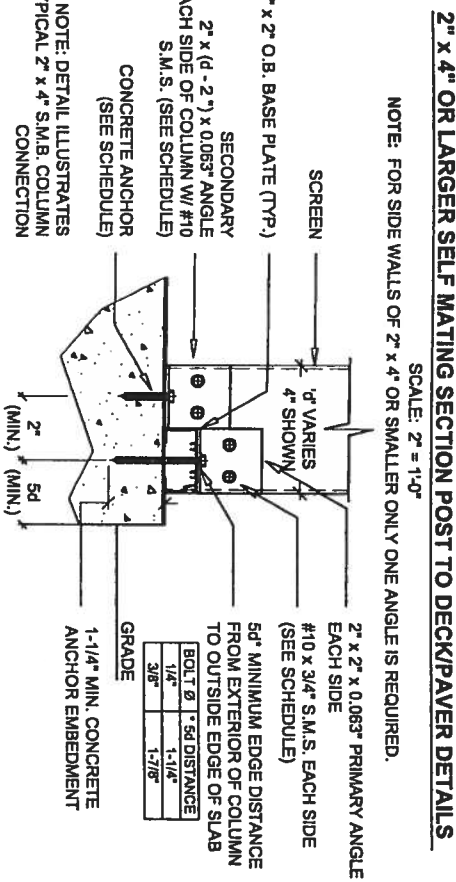
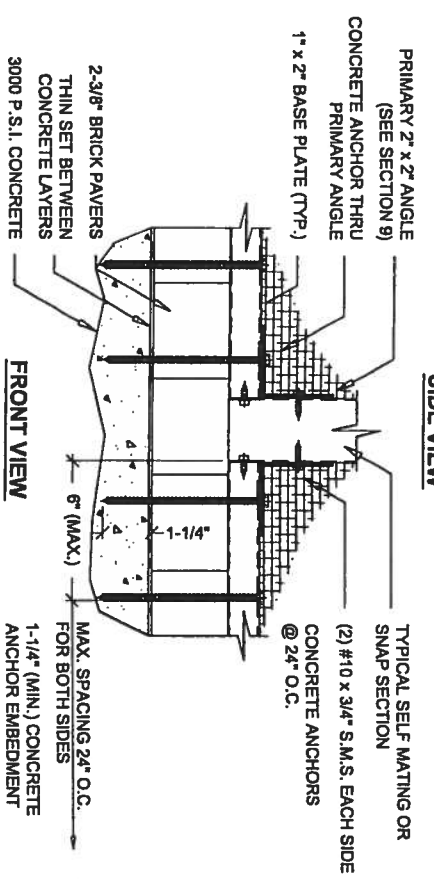
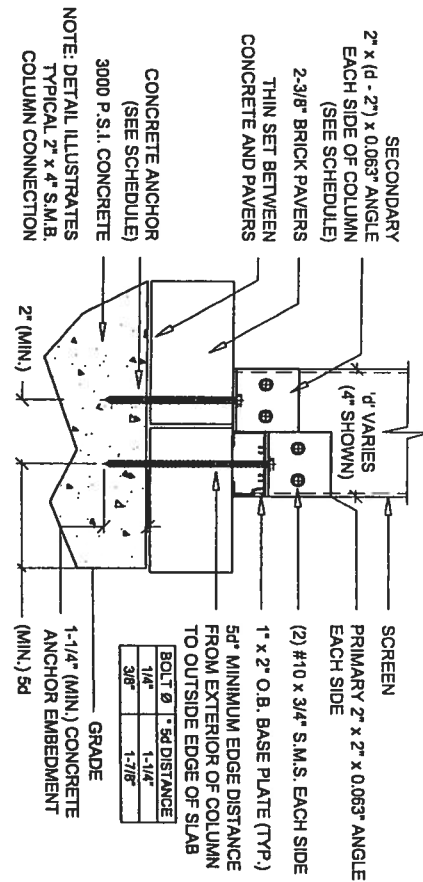
**POOL ENCLOSURE UPRIGHT TO DECK ANCHOR REQUIREMENTS**

- General Notes and Specifications:  
1. The uplift load on a pool enclosure upright is calculated as 1/2 the beam span x the beam spacing x the screen load of 7# / Sq. Ft.  
EXAMPLE:  
FOR A 2' x 6' BEAM WITH A SPAN OF 23' AND A BEAM & UPRIGHT SPACING OF 7' USE:  
1/2 x 17'-11" x 7' x 10# / Sq. Ft. = 627.2# UPLIFT  
2. Table 1.6 of this manual uses the worst case loads for all cases.  
3. In all cases there must be a primary anchor within 6" of each side of the upright.

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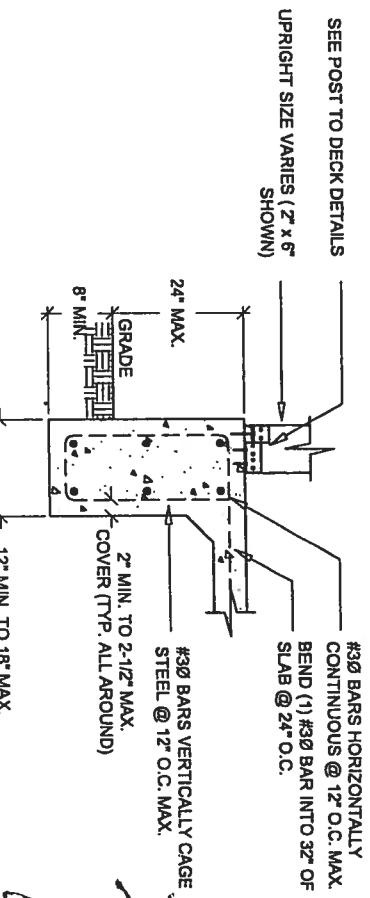
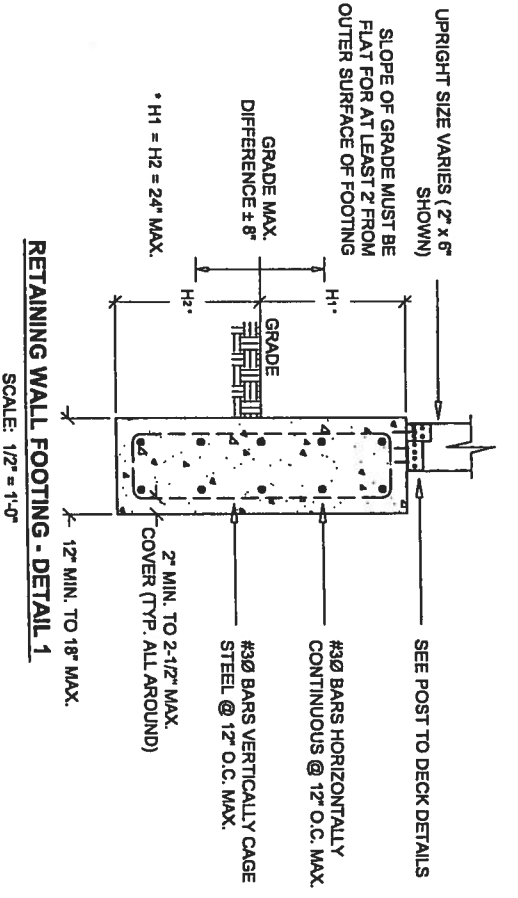
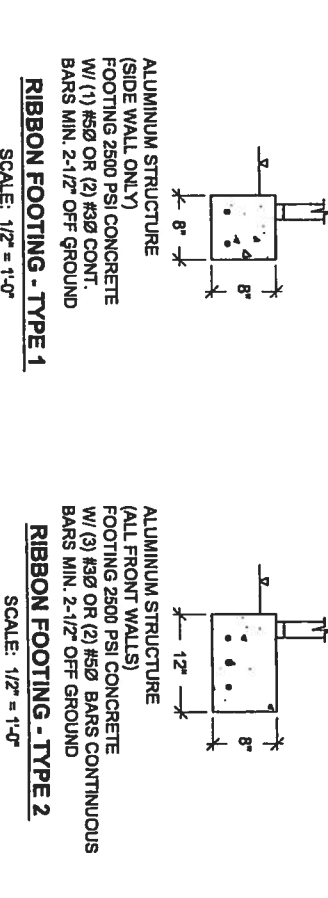
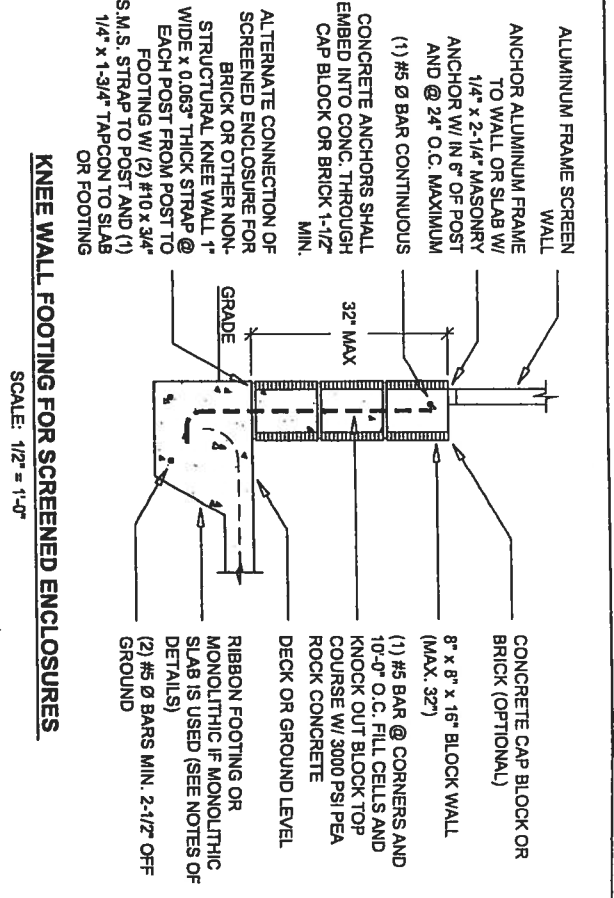
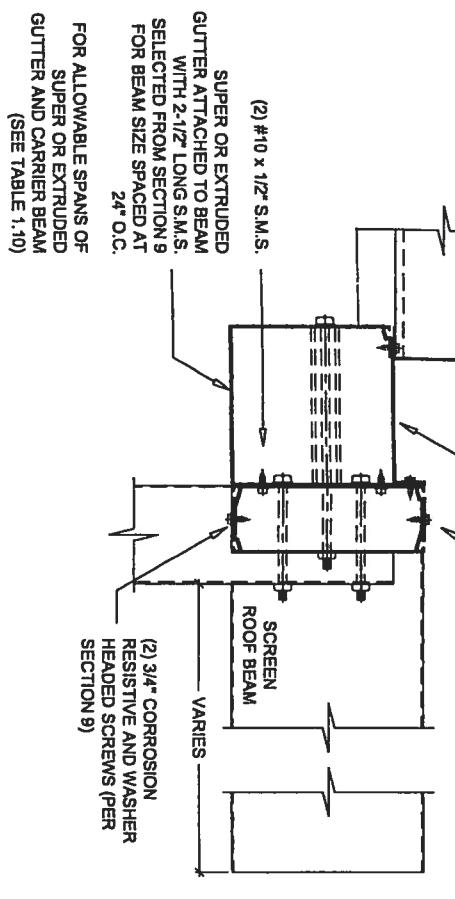
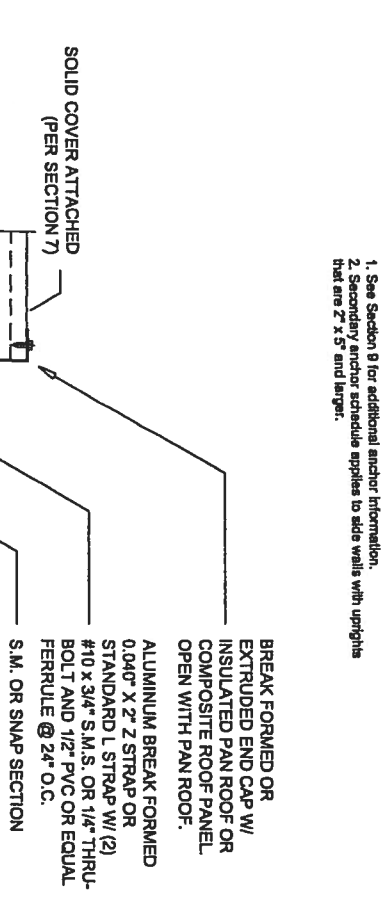
07-08-2004

ALL CONCRETE ANCHOR BOLTS TO BE RAWL EXPANSION BOLTS OR EQUIVALENT



Notes:  
1. See Section 9 for additional anchor information.  
2. Secondary anchor schedule applies to side walls with uprights that are 2' x 4' and larger.

Column Size S.M.B. or S.B.	Total Concrete Anchors	Total #10 x 3/4\"/>
2 x 4	(4) 1/4"	8
2 x 6	(4) 1/4"	8
2 x 6	(4) 1/4"	10
2 x 7	(4) 1/4"	12
2 x 8	(8) 1/4"	14
2 x 8	(8) 1/4"	16
2 x 10	(10) 1/4"	18



NOTE: FOR SIDE WALLS OF 2' x 4' OR SMALLER ONLY ONE ANGLE IS REQUIRED.

NOTE: BEAM MAY BE ATTACHED TO SUPER GUTTER AND SOLID ROOF TO S.M.B. PROVIDED A STRAP OR 1/2\"/>

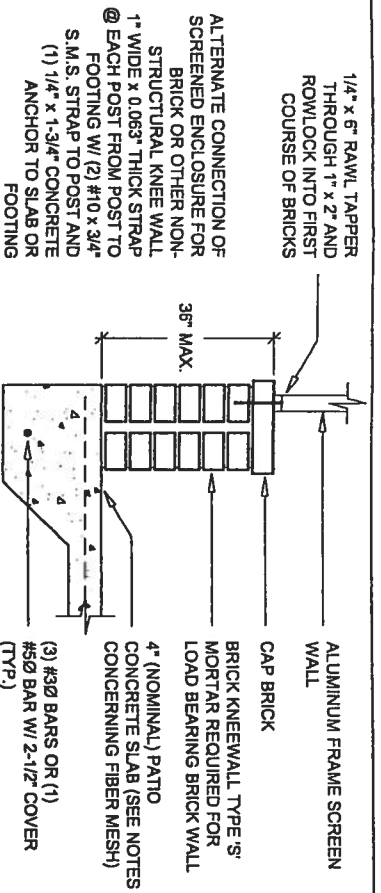
NOTE: SLOPE OF GRADE MUST BE FLAT FOR AT LEAST 2' FROM OUTER SURFACE OF FOOTING

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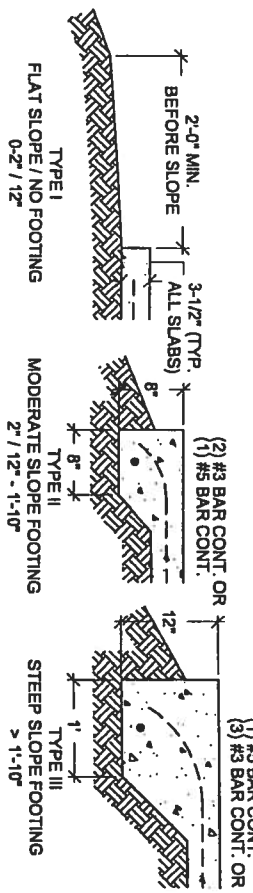
SCREEN ENCLOSURES  
ALUMINUM STRUCTURES DESIGN MANUAL  
2004 FLORIDA BUILDING CODE  
MAY 2004 EDITION  
SECTION 1 DETAILS

07-08-2004

OF SHEET 10 14



**BRICK KNEEWALL AND FOUNDATION FOR SCREEN WALLS**  
SCALE: 1/2" = 1'-0"



- Notes for all foundation types:**
- No footing required except when addressing erosion until the slab width in the direction of the primary exceeds 32 ft. then a Type II footing is required under the load bearing wall only unless the side wall exceeds 16 ft. in height or the enclosure is in a "C" exposure category in which case a Type II footing is required for all walls.
  - The foundations shown are based on a minimum soil bearing pressure of 1,500 PSF. Bearing capacity of soil shall be verified, using a pocket penetrometer, field soil test, or by a soil testing lab, to be above 1,500 PSF prior to placing the slab.
  - The slab / foundation shall be cleared of debris and roots and compacted prior to placement of concrete.
  - Monolithic slabs and footings shall be minimum 2,500 psi concrete with 6 x 6 - 10 x 10 welded wire mesh or crack control fiber mesh: Fibermesh @ Mesh, In-force™ 63™ (Formerly Fibermesh MD) per manufacturer's specification may be used in lieu of wire mesh.
  - If local building codes require a minimum footing, use Type II footing or footing sections required by local code. Local code governs.

**SLAB-FOOTING DETAILS**  
SCALE: 1/2" = 1'-0"

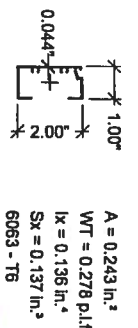
JAN 05 2005  
SEAL  
SHEET 11

**Lawrence E. Bennett, P.E.**  
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SCREEN ENCLOSURES  
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SECTION 1 DETAILS

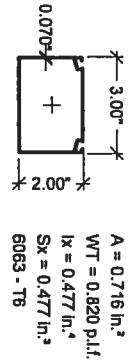
**General Notes and Specifications:**

The following extrusions are considered to be "Industry Standard" shapes. The properties are based on die drawings furnished by Florida Extruders International, Inc.



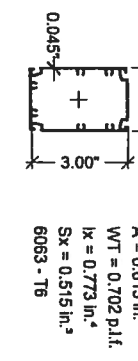
A = 0.243 in.<sup>2</sup>  
WT = 0.278 p.l.f.  
Ix = 0.136 in.<sup>4</sup>  
Sx = 0.137 in.<sup>3</sup>  
6063 - T8

**1" x 2" x 0.044" OPEN BACK SECTION**  
SCALE: 2" = 1'-0"



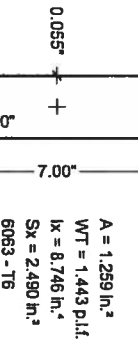
A = 0.716 in.<sup>2</sup>  
WT = 0.820 p.l.f.  
Ix = 0.477 in.<sup>4</sup>  
Sx = 0.477 in.<sup>3</sup>  
6063 - T8

**3" x 2" x 0.070" PATIO SECTION**  
SCALE: 2" = 1'-0"



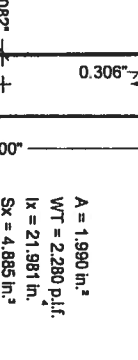
A = 0.613 in.<sup>2</sup>  
WT = 0.702 p.l.f.  
Ix = 0.773 in.<sup>4</sup>  
Sx = 0.515 in.<sup>3</sup>  
6063 - T8

**2" x 3" x 0.045" SPECIAL SECTION**  
SCALE: 2" = 1'-0"



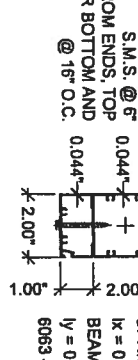
A = 0.562 in.<sup>2</sup>  
WT = 1.122 p.l.f.  
Ix = 0.782 in.<sup>4</sup>  
Sx = 0.820 in.<sup>3</sup>  
6063 - T8

**2" x 3" x 0.045" FLUTED SECTION**  
SCALE: 2" = 1'-0"



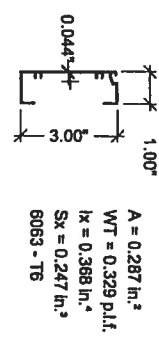
A = 1.990 in.<sup>2</sup>  
WT = 2.280 p.l.f.  
Ix = 21.981 in.<sup>4</sup>  
Sx = 4.885 in.<sup>3</sup>  
6063 - T8

**1" x 2" x 0.044" OPEN BACK SECTION WITH (1) #8 S.M.S. @ 24" O.C.**  
SCALE: 2" = 1'-0"



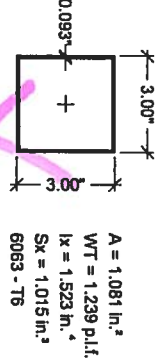
A = 0.666 in.<sup>2</sup>  
WT = 0.763 p.l.f.  
UPRIGHT: Ix = 0.694 in.<sup>4</sup> Sx = 0.466 in.<sup>3</sup>  
BEAM: Iy = 0.406 in.<sup>4</sup> Sy = 0.410 in.<sup>3</sup>  
6063 - T8

**2" x 2" x 0.044" PATIO SECTION WITH (1) #8 S.M.S. @ 6" O.C.**  
SCALE: 2" = 1'-0"



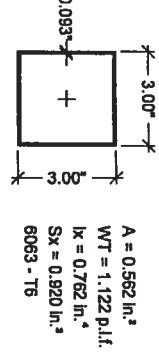
A = 0.424 in.<sup>2</sup>  
WT = 0.486 p.l.f.  
Ix = 0.232 in.<sup>4</sup>  
Sx = 0.234 in.<sup>3</sup>  
6063 - T8

**4" x 3" x 0.044" OPEN BACK SECTION**  
SCALE: 2" = 1'-0"



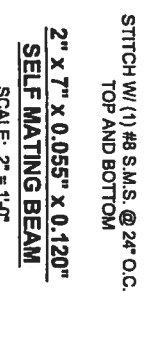
A = 1.081 in.<sup>2</sup>  
WT = 1.239 p.l.f.  
Ix = 1.523 in.<sup>4</sup>  
Sx = 1.015 in.<sup>3</sup>  
6063 - T8

**3" x 3" x 0.093" PATIO SECTION**  
SCALE: 2" = 1'-0"



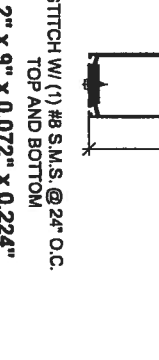
A = 0.772 in.<sup>2</sup>  
WT = 0.885 p.l.f.  
Ix = 1.940 in.<sup>4</sup>  
Sx = 1.323 in.<sup>3</sup>  
6063 - T8

**3" x 3" x 0.045" FLUTED SECTION**  
SCALE: 2" = 1'-0"



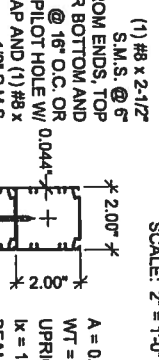
A = 2.250 in.<sup>2</sup>  
WT = 2.578 p.l.f.  
Ix = 15.427 in.<sup>4</sup>  
Sx = 4.408 in.<sup>3</sup>  
6063 - T8

**2" x 7" x 0.055" x 0.120" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



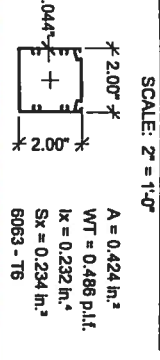
A = 2.355 in.<sup>2</sup>  
WT = 2.698 p.l.f.  
Ix = 26.481 in.<sup>4</sup>  
Sx = 5.885 in.<sup>3</sup>  
6063 - T8

**2" x 9" x 0.072" x 0.224" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



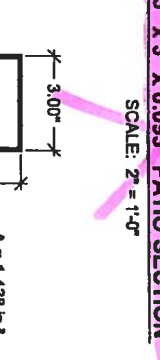
A = 0.847 in.<sup>2</sup>  
WT = 0.971 p.l.f.  
UPRIGHT: Ix = 1.295 in.<sup>4</sup> Sx = 0.654 in.<sup>3</sup>  
BEAM: Iy = 0.540 in.<sup>4</sup> Sy = 0.545 in.<sup>3</sup>  
6063 - T8

**2" x 2" x 0.044" PATIO SECTION WITH (1) #8 S.M.S. @ 24" O.C.**  
SCALE: 2" = 1'-0"



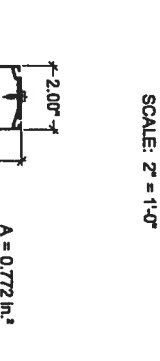
A = 0.496 in.<sup>2</sup>  
WT = 0.568 p.l.f.  
Ix = 0.276 in.<sup>4</sup>  
Sx = 0.279 in.<sup>3</sup>  
6063 - T8

**2" x 2" x 0.044" PATIO SECTION**  
SCALE: 2" = 1'-0"



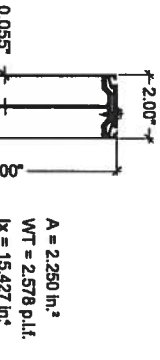
A = 0.451 in.<sup>2</sup>  
WT = 0.620 p.l.f.  
Ix = 0.336 in.<sup>4</sup>  
Sx = 0.336 in.<sup>3</sup>  
6063 - T8

**2" x 2" x 0.055" PATIO SECTION**  
SCALE: 2" = 1'-0"



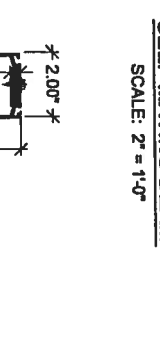
A = 0.685 in.<sup>2</sup>  
WT = 0.785 p.l.f.  
Ix = 1.393 in.<sup>4</sup>  
Sx = 0.697 in.<sup>3</sup>  
6063 - T8

**2" x 4" x 0.050" PATIO SECTION**  
SCALE: 2" = 1'-0"



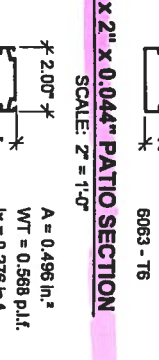
A = 0.482 in.<sup>2</sup>  
WT = 0.552 p.l.f.  
Ix = 0.609 in.<sup>4</sup>  
Sx = 0.406 in.<sup>3</sup>  
6063 - T8

**2" x 3" x 0.045" PATIO SECTION**  
SCALE: 2" = 1'-0"



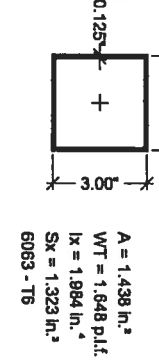
A = 1.938 in.<sup>2</sup>  
WT = 2.221 p.l.f.  
Ix = 4.854 in.<sup>4</sup>  
Sx = 2.427 in.<sup>3</sup>  
6063 - T8

**2" x 4" x 0.125" PATIO SECTION**  
SCALE: 2" = 1'-0"



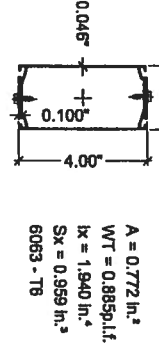
A = 0.451 in.<sup>2</sup>  
WT = 0.620 p.l.f.  
Ix = 0.336 in.<sup>4</sup>  
Sx = 0.336 in.<sup>3</sup>  
6063 - T8

**3" x 2" x 0.045" PATIO SECTION**  
SCALE: 2" = 1'-0"



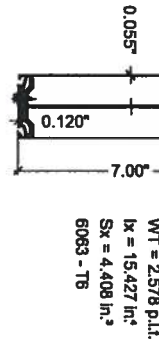
A = 1.438 in.<sup>2</sup>  
WT = 1.648 p.l.f.  
Ix = 1.984 in.<sup>4</sup>  
Sx = 1.323 in.<sup>3</sup>  
6063 - T8

**3" x 3" x 0.125" PATIO SECTION**  
SCALE: 2" = 1'-0"



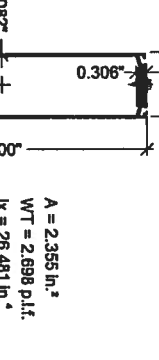
A = 0.984 in.<sup>2</sup>  
WT = 1.105 p.l.f.  
Ix = 3.691 in.<sup>4</sup>  
Sx = 1.468 in.<sup>3</sup>  
6063 - T8

**2" x 4" x 0.046" x 0.100" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



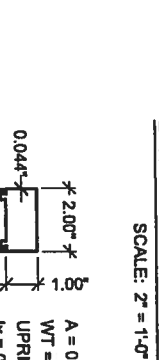
A = 1.853 in.<sup>2</sup>  
WT = 2.123 p.l.f.  
Ix = 16.638 in.<sup>4</sup>  
Sx = 4.157 in.<sup>3</sup>  
6063 - T8

**2" x 7" x 0.055" x 0.120" SELF MATING BEAM W/ INSERT**  
SCALE: 2" = 1'-0"



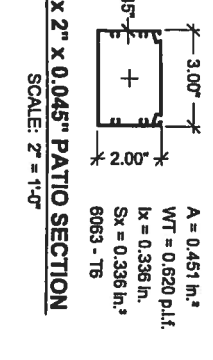
A = 3.032 in.<sup>2</sup>  
WT = 3.474 p.l.f.  
Ix = 42.583 in.<sup>4</sup>  
Sx = 8.504 in.<sup>3</sup>  
6063 - T8

**2" x 9" x 0.082" x 0.306" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



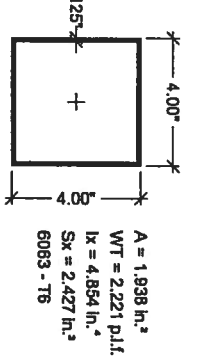
A = 0.582 in.<sup>2</sup>  
WT = 0.678 p.l.f.  
UPRIGHT: Ix = 0.457 in.<sup>4</sup> Sx = 0.355 in.<sup>3</sup>  
Iy = 0.369 in.<sup>4</sup> Sy = 0.369 in.<sup>3</sup>  
6063 - T8

**1" x 2" x 0.044" SNAP CAP SECTION WITH (1) #8 S.M.S. @ 24" O.C.**  
SCALE: 2" = 1'-0"



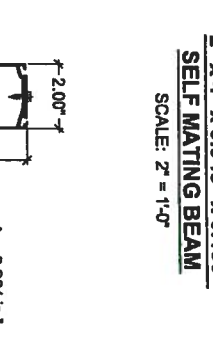
A = 0.451 in.<sup>2</sup>  
WT = 0.620 p.l.f.  
Ix = 0.336 in.<sup>4</sup>  
Sx = 0.336 in.<sup>3</sup>  
6063 - T8

**2" x 3" x 0.045" PATIO SECTION**  
SCALE: 2" = 1'-0"



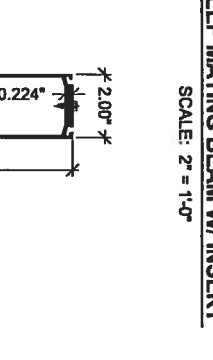
A = 0.582 in.<sup>2</sup>  
WT = 0.667 p.l.f.  
Ix = 1.228 in.<sup>4</sup>  
Sx = 0.614 in.<sup>3</sup>  
6063 - T8

**2" x 3" x 0.050" TILT SECTION**  
SCALE: 2" = 1'-0"



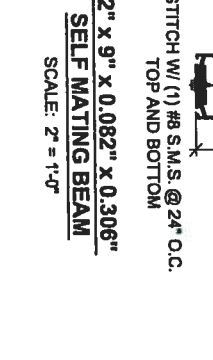
A = 1.095 in.<sup>2</sup>  
WT = 1.255 p.l.f.  
Ix = 5.919 in.<sup>4</sup>  
Sx = 1.965 in.<sup>3</sup>  
6063 - T8

**2" x 5" x 0.050" x 0.120" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



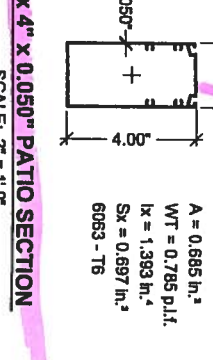
A = 1.853 in.<sup>2</sup>  
WT = 2.123 p.l.f.  
Ix = 16.638 in.<sup>4</sup>  
Sx = 4.157 in.<sup>3</sup>  
6063 - T8

**2" x 8" x 0.072" x 0.224" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



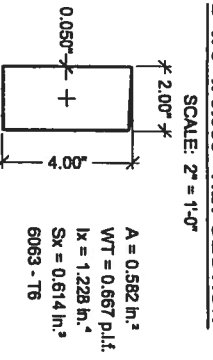
A = 3.032 in.<sup>2</sup>  
WT = 3.474 p.l.f.  
Ix = 42.583 in.<sup>4</sup>  
Sx = 8.504 in.<sup>3</sup>  
6063 - T8

**2" x 10" x 0.092" x 0.369" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



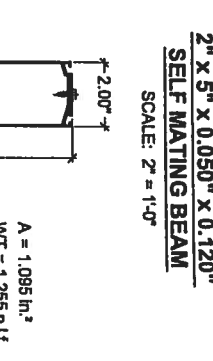
A = 0.685 in.<sup>2</sup>  
WT = 0.785 p.l.f.  
Ix = 1.393 in.<sup>4</sup>  
Sx = 0.697 in.<sup>3</sup>  
6063 - T8

**2" x 4" x 0.050" PATIO SECTION**  
SCALE: 2" = 1'-0"



A = 0.582 in.<sup>2</sup>  
WT = 0.667 p.l.f.  
Ix = 1.228 in.<sup>4</sup>  
Sx = 0.614 in.<sup>3</sup>  
6063 - T8

**2" x 4" x 0.050" TILT SECTION**  
SCALE: 2" = 1'-0"



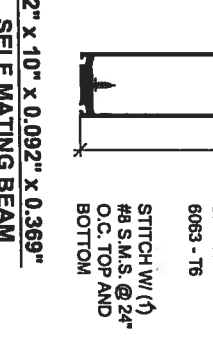
A = 1.095 in.<sup>2</sup>  
WT = 1.255 p.l.f.  
Ix = 5.919 in.<sup>4</sup>  
Sx = 1.965 in.<sup>3</sup>  
6063 - T8

**2" x 6" x 0.050" x 0.120" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



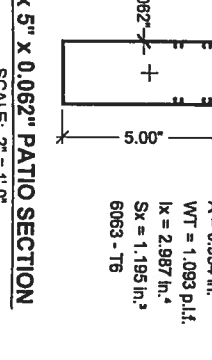
A = 1.853 in.<sup>2</sup>  
WT = 2.123 p.l.f.  
Ix = 16.638 in.<sup>4</sup>  
Sx = 4.157 in.<sup>3</sup>  
6063 - T8

**2" x 8" x 0.072" x 0.224" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



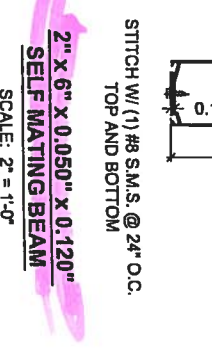
A = 3.032 in.<sup>2</sup>  
WT = 3.474 p.l.f.  
Ix = 42.583 in.<sup>4</sup>  
Sx = 8.504 in.<sup>3</sup>  
6063 - T8

**2" x 10" x 0.092" x 0.369" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



A = 0.954 in.<sup>2</sup>  
WT = 1.093 p.l.f.  
Ix = 2.987 in.<sup>4</sup>  
Sx = 1.195 in.<sup>3</sup>  
6063 - T8

**2" x 5" x 0.062" PATIO SECTION**  
SCALE: 2" = 1'-0"



A = 1.095 in.<sup>2</sup>  
WT = 1.255 p.l.f.  
Ix = 5.919 in.<sup>4</sup>  
Sx = 1.965 in.<sup>3</sup>  
6063 - T8

**2" x 6" x 0.050" x 0.120" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



A = 2.250 in.<sup>2</sup>  
WT = 2.578 p.l.f.  
Ix = 15.427 in.<sup>4</sup>  
Sx = 4.408 in.<sup>3</sup>  
6063 - T8

**2" x 7" x 0.055" x 0.120" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



A = 2.355 in.<sup>2</sup>  
WT = 2.698 p.l.f.  
Ix = 26.481 in.<sup>4</sup>  
Sx = 5.885 in.<sup>3</sup>  
6063 - T8

**2" x 9" x 0.072" x 0.224" SELF MATING BEAM**  
SCALE: 2" = 1'-0"



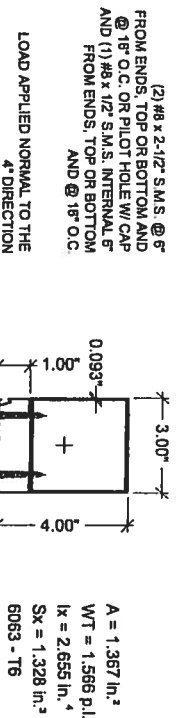
A = 0.582 in.<sup>2</sup>  
WT = 0.678 p.l.f.  
UPRIGHT: Ix = 0.457 in.<sup>4</sup> Sx = 0.355 in.<sup>3</sup>  
Iy = 0.369 in.<sup>4</sup> Sy = 0.369 in.<sup>3</sup>  
6063 - T8

**1" x 2" x 0.044" SNAP CAP SECTION WITH (1) #8 S.M.S. @ 24" O.C.**  
SCALE: 2" = 1'-0"

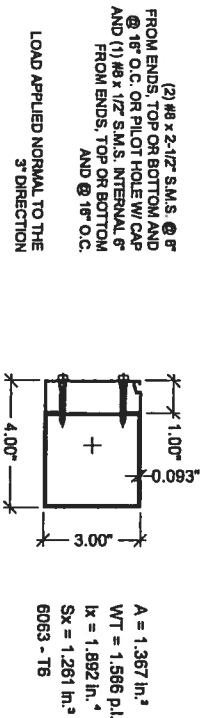
JAN 2004  
SHEET  
**12A**

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FL # 16644  
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TELEPHONE: (386) 767-4774  
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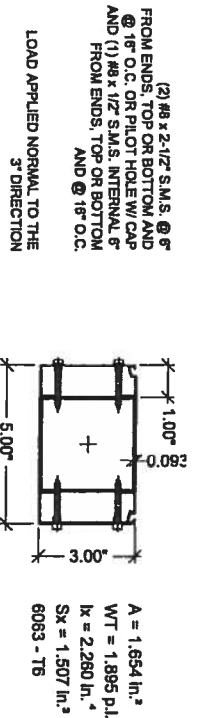
SCREEN ENCLOSURES  
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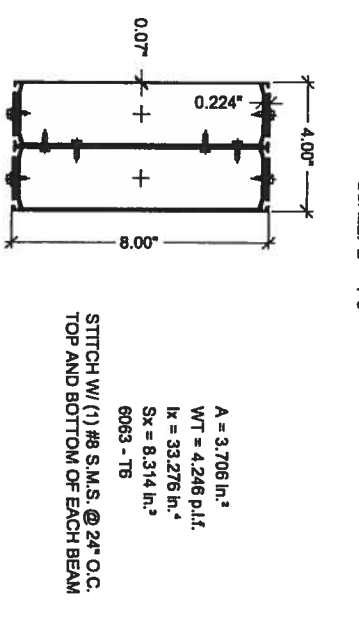
**1" x 3" x 0.044" OPEN BACK SECTION WITH 3" x 3" x 0.093" PATIO SECTION CORNER POST**  
SCALE: 2" = 1'-0"



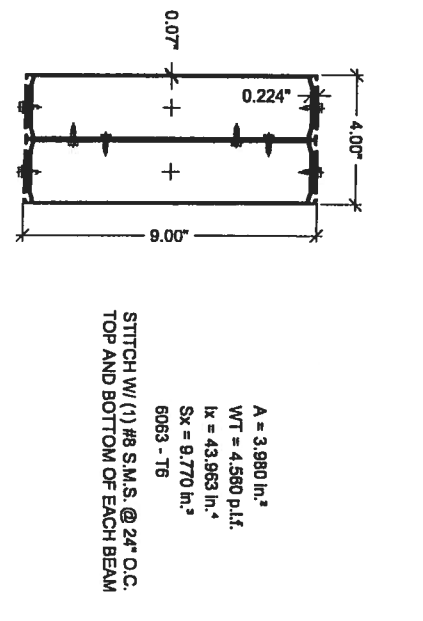
**1" x 3" x 0.044" OPEN BACK SECTION WITH 3" x 3" x 0.093" PATIO SECTION WALL POST**  
SCALE: 2" = 1'-0"



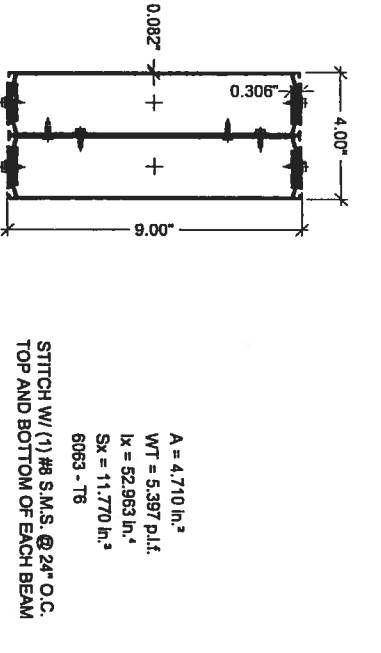
**(2) 1" x 3" x 0.044" OPEN BACK SECTION WITH 3" x 3" x 0.093" PATIO SECTION WALL POST**  
SCALE: 2" = 1'-0"



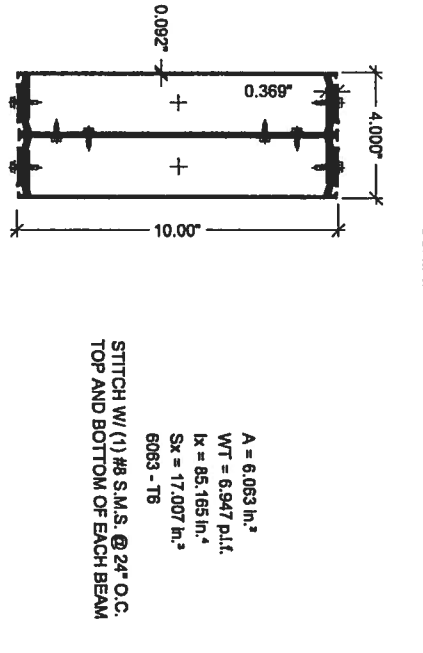
**(2) 2" x 8" x 0.072" x 0.224" SELF MATING BEAMS**  
SCALE: 2" = 1'-0"



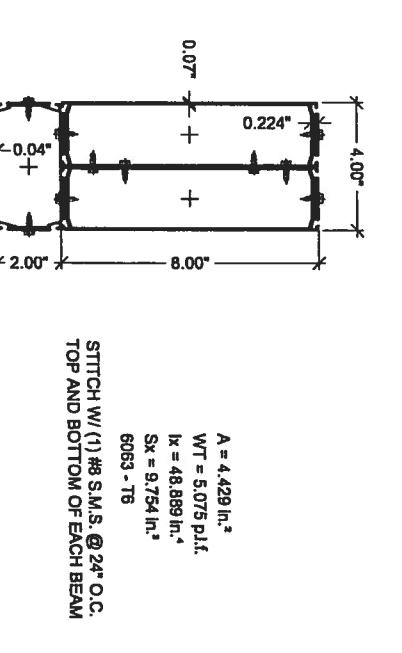
**(2) 2" x 9" x 0.072" x 0.224" SELF MATING BEAMS**  
SCALE: 2" = 1'-0"



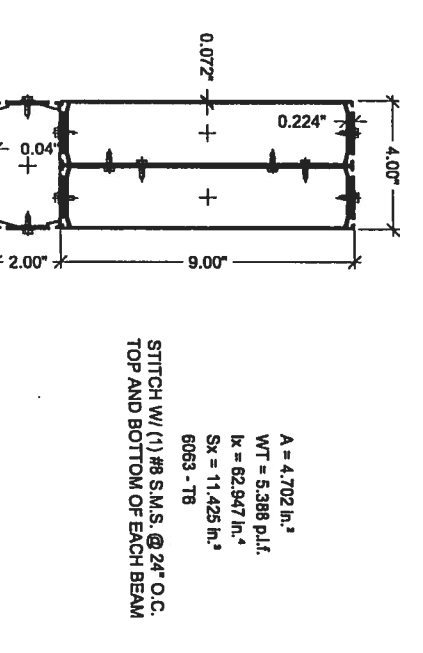
**(2) 2" x 9" x 0.082" x 0.306" SELF MATING BEAMS**  
SCALE: 2" = 1'-0"



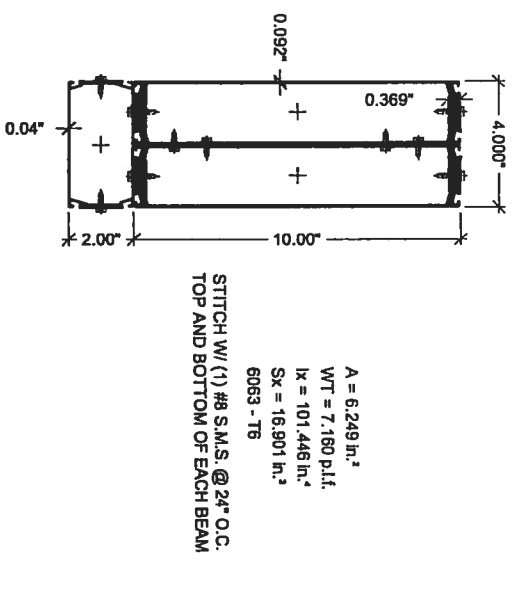
**(2) 2" x 10" x 0.092" x 0.369" SELF MATING BEAMS**  
SCALE: 2" = 1'-0"



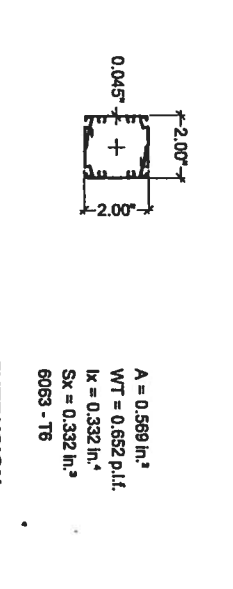
**(2) 2" x 8" x 0.072" x 0.224" SELF MATING BEAMS W/ 2" x 4" x 0.038"**  
SCALE: 2" = 1'-0"



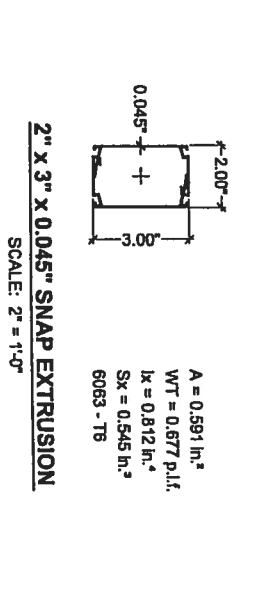
**(2) 2" x 9" x 0.072" x 0.224" SELF MATING BEAMS W/ 2" x 4" x 0.038"**  
SCALE: 2" = 1'-0"



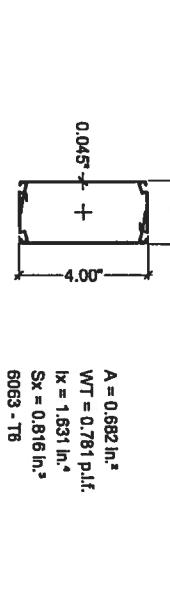
**(2) 2" x 10" x 0.092" x 0.369" SELF MATING BEAMS WITH 2" x 4" x 0.038"**  
SCALE: 2" = 1'-0"



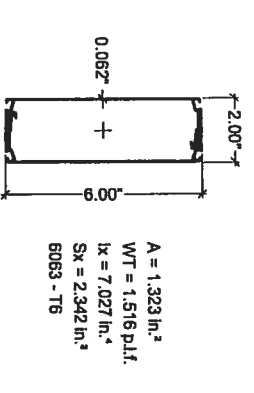
**2" x 2" x 0.045" SNAP EXTRUSION**  
SCALE: 2" = 1'-0"



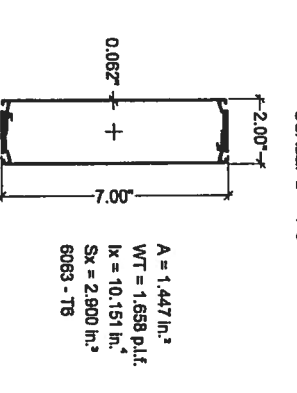
**2" x 3" x 0.045" SNAP EXTRUSION**  
SCALE: 2" = 1'-0"



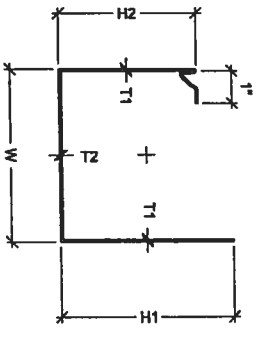
**2" x 4" x 0.045" SNAP EXTRUSION**  
SCALE: 2" = 1'-0"



**2" x 6" x 0.062" SNAP EXTRUSION**  
SCALE: 2" = 1'-0"



**2" x 7" x 0.062" SNAP EXTRUSION**  
SCALE: 2" = 1'-0"



**2" x 4" x 0.045" SNAP EXTRUSION**  
SCALE: 2" = 1'-0"

Section Alloy	W	H	t1	t2	A	I <sub>x</sub>	I <sub>y</sub>	S <sub>x</sub>	S <sub>y</sub>	R <sub>x</sub>	R <sub>y</sub>	Gutter Edge	
												6063 T-5	5
6063 T-5	4	H1.6	0.08	0.08	1.18	3.81	4.05	0.96 (T)	3.40 (L)	1.8	1.85	1.89 (B)	1.44 (R)
		H1.5	0.065	0.065	0.98	2.45	4.43	0.73 (T)	1.80 (L)	1.59	2.14	1.49 (B)	1.74 (R)

IAN 01/2005

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SCREEN ENCLOSURES  
ALUMINUM STRUCTURES DESIGN MANUAL  
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SHEET  
12B  
SEAL

Table 1.1 Allowable Spans for Primary Screen Roof Frame Members  
Aluminum Alloy 6063 T-6  
For Areas with Wind Loads up to 150 M.P.H. and Latitudes Below 30°-30'-00" North (Jacksonville, FL)

Hollow Sections	Tributary Load Width W = Beam Spacing			
	3'-0"	4'-0"	5'-0"	6'-0"
2" x 2" x 0.044"	8'-0"	8'-0"	8'-0"	8'-0"
2" x 2" x 0.055"	10'-0"	10'-0"	10'-0"	10'-0"
2" x 2" x 0.065"	12'-0"	12'-0"	12'-0"	12'-0"
2" x 2" x 0.082"	14'-0"	14'-0"	14'-0"	14'-0"
2" x 2" x 0.092"	16'-0"	16'-0"	16'-0"	16'-0"
2" x 2" x 0.100"	18'-0"	18'-0"	18'-0"	18'-0"
2" x 2" x 0.120"	20'-0"	20'-0"	20'-0"	20'-0"
2" x 2" x 0.130"	22'-0"	22'-0"	22'-0"	22'-0"
2" x 2" x 0.150"	24'-0"	24'-0"	24'-0"	24'-0"
2" x 2" x 0.175"	26'-0"	26'-0"	26'-0"	26'-0"
2" x 2" x 0.224"	28'-0"	28'-0"	28'-0"	28'-0"
2" x 2" x 0.310"	30'-0"	30'-0"	30'-0"	30'-0"
2" x 2" x 0.389"	32'-0"	32'-0"	32'-0"	32'-0"

- Notes:
1. Thicknesses shown are "nominal" industry standard tolerances. No wall thickness shall be less than 0.040".
  2. The structures designed using this section shall be limited to a maximum combined span and upright height of 55' and a maximum upright height of 20'. Structures larger than these limits shall have a specific engineering.
  3. Spans are based on a minimum of 10# / Sq. Ft. for up to a 150 M.P.H. wind load.
  4. Spans are measured from center of beam and upright connection to facade or wall connection.
  5. Above spans do not include length of knee brace. Add horizontal distance from upright to center of brace to beam connection to the above spans for total beam spans.
  6. Purlin spacing shall not exceed 6'-0". For beam spans greater than 4'-0" the beam at the center purlin and one purlin for each 14'-0" on each side of the center purlin shall include lateral bracing as shown in detail (48'-0") span with purlins at 6'-0" o.c. center purlin and (2) purlins each side of center purlin need lateral bracing.
  7. Spans may be interpolated.
- Example: Max. L for 2" x 2" x 0.050" hollow section with W = 5'-0" = 11'-4"

Table 1.2 Allowable Spans for Secondary Screen Roof Frame Members  
Aluminum Alloy 6063 T-6

For Areas with Wind Loads up to 150 M.P.H. and Latitudes Below 30°-30'-00" North (Jacksonville, FL)

A. Sections Fastened To Beams With Clips

Hollow Sections	Tributary Load Width W = Purlin Spacing			
	3'-0"	4'-0"	5'-0"	6'-0"
2" x 2" x 0.044"	7'-0"	7'-0"	7'-0"	7'-0"
2" x 2" x 0.055"	8'-0"	8'-0"	8'-0"	8'-0"
2" x 2" x 0.065"	9'-0"	9'-0"	9'-0"	9'-0"
2" x 2" x 0.082"	10'-0"	10'-0"	10'-0"	10'-0"
2" x 2" x 0.092"	11'-0"	11'-0"	11'-0"	11'-0"
2" x 2" x 0.100"	12'-0"	12'-0"	12'-0"	12'-0"
2" x 2" x 0.120"	14'-0"	14'-0"	14'-0"	14'-0"
2" x 2" x 0.130"	16'-0"	16'-0"	16'-0"	16'-0"
2" x 2" x 0.150"	18'-0"	18'-0"	18'-0"	18'-0"
2" x 2" x 0.175"	20'-0"	20'-0"	20'-0"	20'-0"
2" x 2" x 0.224"	22'-0"	22'-0"	22'-0"	22'-0"
2" x 2" x 0.310"	24'-0"	24'-0"	24'-0"	24'-0"
2" x 2" x 0.389"	26'-0"	26'-0"	26'-0"	26'-0"

B. Sections Fastened Through Beam Webs Into Screw Bosses

Hollow Sections	Tributary Load Width W = Purlin Spacing			
	3'-0"	4'-0"	5'-0"	6'-0"
2" x 2" x 0.044"	8'-0"	8'-0"	8'-0"	8'-0"
2" x 2" x 0.055"	9'-0"	9'-0"	9'-0"	9'-0"
2" x 2" x 0.065"	10'-0"	10'-0"	10'-0"	10'-0"
2" x 2" x 0.082"	11'-0"	11'-0"	11'-0"	11'-0"
2" x 2" x 0.092"	12'-0"	12'-0"	12'-0"	12'-0"
2" x 2" x 0.100"	13'-0"	13'-0"	13'-0"	13'-0"
2" x 2" x 0.120"	15'-0"	15'-0"	15'-0"	15'-0"
2" x 2" x 0.130"	17'-0"	17'-0"	17'-0"	17'-0"
2" x 2" x 0.150"	19'-0"	19'-0"	19'-0"	19'-0"
2" x 2" x 0.175"	21'-0"	21'-0"	21'-0"	21'-0"
2" x 2" x 0.224"	23'-0"	23'-0"	23'-0"	23'-0"
2" x 2" x 0.310"	25'-0"	25'-0"	25'-0"	25'-0"
2" x 2" x 0.389"	27'-0"	27'-0"	27'-0"	27'-0"

C. Snap Sections

Snap Sections	Tributary Load Width W = Purlin Spacing			
	3'-0"	4'-0"	5'-0"	6'-0"
3'-0"	4'-0"	5'-0"	6'-0"	7'-0"
4'-0"	5'-0"	6'-0"	7'-0"	8'-0"
5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
6'-0"	7'-0"	8'-0"	9'-0"	10'-0"

- Notes:
1. Thicknesses shown are "nominal" industry standard tolerances. No wall thickness shall be less than 0.040".
  2. Spans are based on a minimum of 10# / Sq. Ft. for up to a 150 M.P.H. wind load.
  3. Span is measured from center of beam and upright connection to facade or wall connection.
  4. Purlin spacing shall not exceed 6'-0". For beam spans greater than 4'-0" the beam at the center purlin and one purlin for each 14'-0" on each side of the center purlin shall include lateral bracing as shown in detail (48'-0") span with purlins at 6'-0" o.c. center purlin and (2) purlins each side of center purlin need lateral bracing.
  5. Spans may be interpolated.
- Example: Max. L for 2" x 2" x 0.050" hollow section fastened to beam with clips with W = 5'-0" = 10'-2"

Table 1.3 Allowable Post / Upright Heights for Primary Screen Wall Frame Members  
Aluminum Alloy 6063 T-6  
For 3 second wind gust at velocity of 120 MPH or an applied load of 14# / sq. ft.

Hollow Sections	Tributary Load Width W = Upright Spacing			
	3'-0"	4'-0"	5'-0"	6'-0"
2" x 2" x 0.044"	8'-0"	8'-0"	8'-0"	8'-0"
2" x 2" x 0.055"	10'-0"	10'-0"	10'-0"	10'-0"
2" x 2" x 0.065"	12'-0"	12'-0"	12'-0"	12'-0"
2" x 2" x 0.082"	14'-0"	14'-0"	14'-0"	14'-0"
2" x 2" x 0.092"	16'-0"	16'-0"	16'-0"	16'-0"
2" x 2" x 0.100"	18'-0"	18'-0"	18'-0"	18'-0"
2" x 2" x 0.120"	20'-0"	20'-0"	20'-0"	20'-0"
2" x 2" x 0.130"	22'-0"	22'-0"	22'-0"	22'-0"
2" x 2" x 0.150"	24'-0"	24'-0"	24'-0"	24'-0"
2" x 2" x 0.175"	26'-0"	26'-0"	26'-0"	26'-0"
2" x 2" x 0.224"	28'-0"	28'-0"	28'-0"	28'-0"
2" x 2" x 0.310"	30'-0"	30'-0"	30'-0"	30'-0"
2" x 2" x 0.389"	32'-0"	32'-0"	32'-0"	32'-0"

- Notes:
1. Thicknesses shown are "nominal" industry standard tolerances. No wall thickness shall be less than 0.040".
  2. The structures designed using this section shall be limited to a maximum combined span and upright height of 55' and a maximum upright height of 20'. Structures larger than these limits shall have a specific engineering.
  3. Spans are based on a minimum of 10# / Sq. Ft. for up to a 150 M.P.H. wind load.
  4. Spans are measured from center of beam and upright connection to facade or wall connection.
  5. Above spans do not include length of knee brace. Add horizontal distance from upright to center of brace to beam connection to the above spans for total beam spans.
  6. Purlin spacing shall not exceed 6'-0". For beam spans greater than 4'-0" the beam at the center purlin and one purlin for each 14'-0" on each side of the center purlin shall include lateral bracing as shown in detail (48'-0") span with purlins at 6'-0" o.c. center purlin and (2) purlins each side of center purlin need lateral bracing.
  7. Spans may be interpolated.
- Example: Max. L for 2" x 2" x 0.050" hollow section with W = 5'-0" = 11'-4"

Table 1.4 Allowable Post / Girt / Chair Rail Spans, Header Spans & Upright Heights  
Aluminum Alloy 6063 T-6  
For 3 second wind gust at velocity of 120 MPH or an applied load of 14# / sq. ft.

A. Sections As Horizontal Fastened To Posts With Clips

Hollow Sections	Tributary Load Width W			
	3'-0"	4'-0"	5'-0"	6'-0"
2" x 2" x 0.044"	7'-0"	7'-0"	7'-0"	7'-0"
2" x 2" x 0.055"	8'-0"	8'-0"	8'-0"	8'-0"
2" x 2" x 0.065"	9'-0"	9'-0"	9'-0"	9'-0"
2" x 2" x 0.082"	10'-0"	10'-0"	10'-0"	10'-0"
2" x 2" x 0.092"	11'-0"	11'-0"	11'-0"	11'-0"
2" x 2" x 0.100"	12'-0"	12'-0"	12'-0"	12'-0"
2" x 2" x 0.120"	14'-0"	14'-0"	14'-0"	14'-0"
2" x 2" x 0.130"	16'-0"	16'-0"	16'-0"	16'-0"
2" x 2" x 0.150"	18'-0"	18'-0"	18'-0"	18'-0"
2" x 2" x 0.175"	20'-0"	20'-0"	20'-0"	20'-0"
2" x 2" x 0.224"	22'-0"	22'-0"	22'-0"	22'-0"
2" x 2" x 0.310"	24'-0"	24'-0"	24'-0"	24'-0"
2" x 2" x 0.389"	26'-0"	26'-0"	26'-0"	26'-0"

B. Sections As Horizontal Fastened To Posts Through Slide Into Screw Bosses

Hollow Sections	Tributary Load Width W			
	3'-0"	4'-0"	5'-0"	6'-0"
2" x 2" x 0.044"	8'-0"	8'-0"	8'-0"	8'-0"
2" x 2" x 0.055"	9'-0"	9'-0"	9'-0"	9'-0"
2" x 2" x 0.065"	10'-0"	10'-0"	10'-0"	10'-0"
2" x 2" x 0.082"	11'-0"	11'-0"	11'-0"	11'-0"
2" x 2" x 0.092"	12'-0"	12'-0"	12'-0"	12'-0"
2" x 2" x 0.100"	13'-0"	13'-0"	13'-0"	13'-0"
2" x 2" x 0.120"	15'-0"	15'-0"	15'-0"	15'-0"
2" x 2" x 0.130"	17'-0"	17'-0"	17'-0"	17'-0"
2" x 2" x 0.150"	19'-0"	19'-0"	19'-0"	19'-0"
2" x 2" x 0.175"	21'-0"	21'-0"	21'-0"	21'-0"
2" x 2" x 0.224"	23'-0"	23'-0"	23'-0"	23'-0"
2" x 2" x 0.310"	25'-0"	25'-0"	25'-0"	25'-0"
2" x 2" x 0.389"	27'-0"	27'-0"	27'-0"	27'-0"

C. Snap Sections

Snap Sections	Tributary Load Width W			
	3'-0"	4'-0"	5'-0"	6'-0"
3'-0"	4'-0"	5'-0"	6'-0"	7'-0"
4'-0"	5'-0"	6'-0"	7'-0"	8'-0"
5'-0"	6'-0"	7'-0"	8'-0"	9'-0"
6'-0"	7'-0"	8'-0"	9'-0"	10'-0"

- Notes:
1. Thicknesses shown are "nominal" industry standard tolerances. No wall thickness shall be less than 0.040".
  2. The structures designed using this section shall be limited to a maximum combined span and upright height of 55' and a maximum upright height of 20'. Structures larger than these limits shall have a specific engineering.
  3. Spans are based on a minimum of 10# / Sq. Ft. for up to a 150 M.P.H. wind load.
  4. Spans are measured from center of beam and upright connection to facade or wall connection.
  5. Above spans do not include length of knee brace. Add horizontal distance from upright to center of brace to beam connection to the above spans for total beam spans.
  6. Purlin spacing shall not exceed 6'-0". For beam spans greater than 4'-0" the beam at the center purlin and one purlin for each 14'-0" on each side of the center purlin shall include lateral bracing as shown in detail (48'-0") span with purlins at 6'-0" o.c. center purlin and (2) purlins each side of center purlin need lateral bracing.
  7. Spans may be interpolated.
- Example: Max. L for 2" x 2" x 0.050" hollow section fastened to beam with clips with W = 5'-0" = 10'-2"

Table 1.5 Allowable Spans for Miscellaneous Framing Beams as Supporting Screen Roof Frame Members  
Aluminum Alloy 6063 T-6  
For Areas with Wind Loads up to 150 M.P.H. and Latitudes Below 30°-30'-00" North (Jacksonville, FL)

Single Self-Mating Beams	Tributary Load Width			
	10'-0"	14'-0"	18'-0"	22'-0"
2" x 4" x 0.044" x 0.100"	10'-0"	14'-0"	18'-0"	22'-0"
2" x 5" x 0.050" x 0.100"	13'-0"	17'-0"	21'-0"	25'-0"
2" x 6" x 0.055" x 0.120"	15'-0"	19'-0"	23'-0"	27'-0"
2" x 7" x 0.055" w/insult	17'-0"	21'-0"	25'-0"	29'-0"
2" x 8" x 0.072" x 0.224"	19'-0"	23'-0"	27'-0"	31'-0"
2" x 8" x 0.072" x 0.224"	21'-0"	25'-0"	29'-0"	33'-0"
2" x 10" x 0.082" x 0.305"	23'-0"	27'-0"	31'-0"	35'-0"
2" x 10" x 0.082" x 0.369"	25'-0"	29'-0"	33'-0"	37'-0"

Double Self-Mating Beams with 2 x 4 SMB added to Top or Bottom

Double Self-Mating Beams	Tributary Load Width			
	10'-0"	14'-0"	18'-0"	22'-0"
2" x 4" x 0.072" x 0.224"	10'-0"	14'-0"	18'-0"	22'-0"
2" x 5" x 0.072" x 0.224"	13'-0"	17'-0"	21'-0"	25'-0"
2" x 6" x 0.082" x 0.305"	15'-0"	19'-0"	23'-0"	27'-0"
2" x 7" x 0.082" x 0.369"	17'-0"	21'-0"	25'-0"	29'-0"

- Notes:
1. It is recommended that the engineer be consulted on any carrier beam that spans more than 55'.
  2. Spans are based on 150 M.P.H. wind load plus dead load for framing.
  3. Span is measured from center of connection to facade or wall connection.
  4. Above spans do not include length of knee brace. Add horizontal distance from upright to center of brace to beam connection to the above spans for total beam spans.
  5. Spans may be interpolated.
- Example: The Maximum L for a 2" x 4" x 0.044" x 0.100" Single Self-Mating Beam with Tributary Load Width = 22'-0" is 7'-5"

Table 1.6 Minimum Upright Sizes and Number of Screws for Connection of Roof Beams to Wall Uprights or Beam Splicing

Beam Size	Upright Size	Minimum Purlin, Girt, Deck & Knee Brace Size	Notes	Minimum Number of Screws*		
				#8 x 1/2"	#10 x 3/4"	#12 x 1/2"
2" x 3"	2" x 3"	2" x 2" x 0.044"	Full Lap	4	4	4
2" x 4"	2" x 4"	2" x 2" x 0.044"	Full Lap	4	4	4
2" x 5"	2" x 5"	2" x 2" x 0.044"	Full Lap	4	4	4
2" x 6"	2" x 6"	2" x 2" x 0.044"	Full Lap	4	4	4
2" x 7"	2" x 7"	2" x 2" x 0.044"	Full Lap	4	4	4
2" x 8"	2" x 8"	2" x 3" x 0.044"	Partial Lap	6	6	6
2" x 8"	2" x 8"	2" x 3" x 0.044"	Partial Lap	6	6	6
2" x 10"	2" x 10"	2" x 4" x 0.050"	Partial Lap	8	8	8
2" x 10"	2" x 10"	2" x 4" x 0.050"	Partial Lap	10	10	10

- \* Refer to each side of the beam and upright and each side of splice connection.
- Notes:
1. Connection of "x" x "y" shall use a full lap cut or 1/16" gusset plate.
  2. All gusset plates shall be a minimum of 5052 H-32 Alloy or have a minimum yield strength of 22 ksi.
  3. For beam splices connect the number of screws shown is the total for each splice with 1/2 the screws on each side of the cut.
  4. The number of screws is based on the maximum allowable moment of the beam.
  5. The number of deck anchors is based on the beam.
  6. The number of deck anchors is based on the beam.
  7. If a larger than minimum upright is used the number of screws is the same for each splice with 1/2 the screws on each side of the cut.
  8. All beams to upright connections for 2" x 7" beams or larger shall have an internal or external gusset plates. Gusset plates are required for manual or gable splice connections.
  9. For gable splice connections 2" x 8" beams or larger use 3/4" long screws.
  10. The add wall upright shall have a minimum beam size as shown above, i.e., a 2" x 4" upright shall have a 2" x 3" beam.
  11. Connect beam to upright w/ H-clip, gusset plate, or angle clip for each splice with 1/2 the screws on each side of the cut.
  12. For girt size use upright size (i.e., 2" x 6"). Read the 2" x 6" beam row for min. girt of 2" x 2" x 0.044".

**Table 1.7**  
Minimum Size Screen Enclosure Knee Braces  
and Anchoring Required  
Aluminum 6063 T-6

Brace Length	Extrusion	Anchoring System
0'-2'-0"	2" x 2" x 0.044"	2" H-Channel With (3) #10 x 1 1/2" ECHS SIDE
2'-3'-0"	2" x 3" x 0.045"	2" H-Channel With (3) #10 x 1 1/2" ECHS SIDE
10'-4'-0"	2" x 4" x 0.044" x 0.12"	2" H-Channel With (4) 3/4" long screws (see to be determined by beam size, see table 9.5)

(See Table 1.6 For Number And Size Of Screws)  
Notes:  
1. For required knee braces greater than 4'-0" contact engineer for specifications and details.  
2. Cantilever beam detail shown on page 1-32 shall be used for host structure attachment when knee brace length exceeds 4'-5".

**Table 1.8**

Allowable Spans for Primary Screen Roof Frame Members  
for areas north of the latitude of 30°-30'-00" (Jacksonville, Florida)  
that are subject to ice on the screen & wind zone of 150 MPH or greater.  
Aluminum Alloy 6063 T-6

Hollow Sections	Tributary Load Width = W'			
	3'-0"	4'-0"	6'-0"	7'-0"
2" x 2" x 0.044"	8'-1" b	6'-1" b	6'-3" b	5'-3" b
2" x 2" x 0.055"	8'-10" b	7'-2" b	6'-10" b	5'-5" b
2" x 3" x 0.045"	10'-11" b	9'-5" b	7'-4" b	6'-5" b
2" x 4" x 0.050"	11'-11" b	10'-4" b	8'-5" b	7'-4" b

Self-Meeting Sections	Tributary Load Width = W'			
	3'-0"	4'-0"	6'-0"	7'-0"
2" x 4" x 0.044" x 0.100"	16'-4" b	14'-2" b	12'-6" b	11'-3" b
2" x 6" x 0.050" x 0.100"	20'-2" b	17'-6" b	14'-3" b	12'-4" b
2" x 6" x 0.055" x 0.120"	23'-4" b	20'-3" b	16'-8" b	14'-4" b
2" x 7" x 0.055" w/ Insant	28'-4" b	22'-2" b	18'-7" b	16'-1" b
2" x 8" x 0.055" w/ Insant	34'-11" b	30'-4" b	27'-1" b	24'-5" b
2" x 8" x 0.072" x 0.224"	33'-11" b	29'-5" b	26'-4" b	22'-5" b
2" x 8" x 0.082" x 0.224"	36'-10" b	31'-11" b	28'-1" b	24'-10" b
2" x 8" x 0.082" x 0.280"	40'-5" b	35'-0" b	29'-7" b	26'-7" b
2" x 10" x 0.082" x 0.280"	48'-7" b	42'-1" b	34'-4" b	31'-10" b

Notes:  
1. For span L' of beam: Use screen panel spacing W'.  
2. Above spans do not include length of knee brace. Add horizontal distance from upright to center of brace to beam connection to the above spans for total beam spans.  
3. Purlin spacing shall not exceed 6'-6" (40 x web thickness). For beam spans greater than 40'-0" the beam at the center purlin and one purlin for each 14'-0" on each side of the center purlin shall include lateral bracing as shown in detail (46'-0" span with purlins at 6'-6" o.c. center purlin and (2) purlins each side of center purlin need lateral bracing).  
4. It is recommended that the engineer be consulted on any screen enclosure that spans more than 55'-0" and as a minimum the upright used for screen enclosures over 55'-0" shall be one self-meeting section smaller than the beam section.  
5. Spans are measured from center of beam and upright connection to fascia or wall connection.  
6. Tabs may be used for roofs of Florida or glass rooms, or for solid material on frame.  
7. Spans may be interpolated.  
Example: Max. L' for 2" x 4" x 0.050" hollow section with W' = 3'-0" is 8'-3".

**Table 1.9**  
Allowable Spans for Secondary Screen Roof Frame Members  
For areas north of the latitude of 30°-30'-00" (Jacksonville, Florida)  
that are subject to ice on the screen & wind zone of 150 MPH or greater.  
Aluminum Alloy 6063 T-6

Hollow Sections	Tributary Load Width = Purlin Spacing W'			
	3'-5"	4'-0"	4'-5"	5'-0"
2" x 2" x 0.044"	6'-9" d	6'-3" d	5'-7" d	5'-1" d
2" x 2" x 0.055"	7'-1" d	6'-5" d	6'-1" d	5'-7" d
2" x 3" x 0.045"	9'-0" d	8'-5" d	7'-11" d	6'-11" d
2" x 4" x 0.050"	9'-11" d	8'-3" d	7'-3" d	6'-7" d

Snap Sections	Tributary Load Width = Purlin Spacing W'			
	3'-5"	4'-0"	4'-5"	5'-0"
2" x 2" x 0.044"	7'-4" d	7'-0" d	6'-9" d	6'-2" d
2" x 2" x 0.044"	7'-4" d	7'-0" d	6'-9" d	6'-2" d

Notes:  
1. For span L' of beam: Use screen panel spacing W'.  
2. Above spans do not include length of knee brace. Add horizontal distance from upright to center of brace to beam connection to the above spans for total beam spans.  
3. Purlin spacing shall not exceed 6'-6" (40 x web thickness). For beam spans greater than 40'-0" the beam at the center purlin and one purlin for each 14'-0" on each side of the center purlin shall include lateral bracing as shown in detail (46'-0" span with purlins at 6'-6" o.c. center purlin and (2) purlins each side of center purlin need lateral bracing).  
4. It is recommended that the engineer be consulted on any screen enclosure that spans more than 55'-0" and as a minimum the upright used for screen enclosures over 55'-0" shall be one self-meeting section smaller than the beam section.  
5. Spans are measured from center of beam and upright connection to fascia or wall connection.  
6. Tabs may be used for roofs of Florida or glass rooms, or for solid material on frame.  
7. Spans may be interpolated.  
Example: L' for 2" x 4" x 0.050" hollow section fastened to beams with clips and W' = 5'-0" = 8'-3".

**Table 1.10** Allowable Spans for 5" Super Gutter and Self Meeting Beam  
Screened Enclosure One Side / Solid Roof Other Side  
Aluminum Alloy 6063 T-6

Beams And Gutters	1/2 Screen Roof Beam Span		1/2 Solid Roof Beam Span	
	10'-0"	12'-0"	14'-0"	18'-0"
5" Super Gutters	5'-0"	6'-0"	5'-0"	6'-0"
2" x 6" x 0.050" x 0.120"	11'-4" b	10'-11" b	10'-3" b	9'-11" b
2" x 6" x 0.055" x 0.120"	12'-1" b	11'-8" b	11'-2" b	10'-8" b
2" x 7" x 0.055" w/ Insant	15'-3" b	14'-8" b	14'-3" b	13'-10" b
2" x 8" x 0.072" x 0.224"	14'-10" b	14'-4" b	13'-10" b	13'-5" b
2" x 8" x 0.072" x 0.224"	15'-11" b	15'-5" b	14'-5" b	14'-1" b
2" x 8" x 0.082" x 0.280"	17'-4" b	16'-8" b	16'-2" b	15'-8" b
2" x 10" x 0.082" x 0.280"	20'-7" b	19'-11" b	19'-3" b	18'-2" b

Notes:  
1. If the solid panel is greater or less than 10'-0", then the 1/2 the allowable screen roof beam span shall be adjusted by the factor of 4/2, 2 x 1/2 the solid roof panel span difference between the actual and 10'-0". The adjustment to the allowable screen roof panel width is applied as a plus if the solid roof panel is larger than 10'-0" and minus if the solid roof panel is smaller than 10'-0".  
2. For span of L' of beam: use screen panel width W' from drawing.  
3. Load span = 1/2 of screen beam length + 1/2 of solid roof span.  
4. Spans are based on a minimum of 10#/Sq. Ft. for screen end up to a 150 M.P.H. wind load for solid roof portion.  
5. Spans may be interpolated.  
6. For minimum beam to upright sizes use Table 2.3.

**Table 1.11** K-Bracing Fastening Schedule

Maximum Wall Width =	Number of #10 x 3/4" S.M.S. Required		Fasten to Sides of Plate
	Corner Post Diagonals (K) Per End	Intermediate Posts @ Chair Rail	
20'-0"	2	4	2
30'-0"	2	4	2
40'-0"	3	4	2
50'-0"	4	5	3
60'-0"	6	7	3

Notes:  
Maximum front wall height = 10'-0"  
Use front wall width when determining number of m.s. for the side wall K-bracing.  
Use side wall width when determining number of m.s. for the front and / or back wall K-bracing.

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SHEET SEAL

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SCREEN ENCLOSURES  
ALUMINUM STRUCTURES DESIGN MANUAL  
2004 FLORIDA BUILDING CODE  
MAY 2004 EDITION  
SECTION 1 TABLES

Table 9.1 Allowable Loads for Concrete Anchors

Screw Size	Embedment Depth (in.)	Min. Edge Dist. & Anchor Spacing (5d min.)	Allowable Tension	Allowable Shear
1/4"	1-1/2"	2 1/2"	236#	236#
3/8"	1-1/2"	2 1/2"	236#	236#
1/2"	1-1/2"	2 1/2"	236#	236#
3/4"	1-1/2"	2 1/2"	236#	236#
1"	1-1/2"	2 1/2"	236#	236#
1 1/4"	1-1/2"	2 1/2"	236#	236#
1 1/2"	1-1/2"	2 1/2"	236#	236#
1 3/4"	1-1/2"	2 1/2"	236#	236#
2"	1-1/2"	2 1/2"	236#	236#
2 1/4"	1-1/2"	2 1/2"	236#	236#
2 3/4"	1-1/2"	2 1/2"	236#	236#
3"	1-1/2"	2 1/2"	236#	236#
3 1/4"	1-1/2"	2 1/2"	236#	236#
3 1/2"	1-1/2"	2 1/2"	236#	236#
3 3/4"	1-1/2"	2 1/2"	236#	236#
4"	1-1/2"	2 1/2"	236#	236#
4 1/4"	1-1/2"	2 1/2"	236#	236#
4 1/2"	1-1/2"	2 1/2"	236#	236#
4 3/4"	1-1/2"	2 1/2"	236#	236#
5"	1-1/2"	2 1/2"	236#	236#
5 1/4"	1-1/2"	2 1/2"	236#	236#
5 1/2"	1-1/2"	2 1/2"	236#	236#
5 3/4"	1-1/2"	2 1/2"	236#	236#
6"	1-1/2"	2 1/2"	236#	236#
6 1/4"	1-1/2"	2 1/2"	236#	236#
6 1/2"	1-1/2"	2 1/2"	236#	236#
6 3/4"	1-1/2"	2 1/2"	236#	236#
7"	1-1/2"	2 1/2"	236#	236#

Notes:  
1. Concrete screws are limited to 2" embedment by manufacturers.  
2. Values listed are allowed loads with a safety factor of 4 applied.  
3. Products equal to rawl may be substituted.  
4. Anchors receiving loads perpendicular to the diameter are in tension.  
5. Allowable loads are increased by 1.00 for wind load.  
6. Minimum edge distance and center to center spacing shall be 5d.  
7. Anchors receiving loads parallel to the diameter are shear loads.  
8. A 133% increase has been applied because wind uplift is only load.

Edge Distance	Tension	Shear	Multipliers
5d	1.00	1.20	1.20
6d	1.00	1.20	1.40
7d	1.00	1.10	1.40
8d	1.10	1.10	1.40
9d	1.10	1.10	1.40
10d	1.10	1.10	2.00
11d	1.10	1.10	2.00
12d	1.10	1.10	2.00

Table 9.2 Wood & Concrete Fasteners for Open or Enclosed Buildings

Fastener	Length of Embedment	Number of Fasteners	Allowable Tension	Allowable Shear
1/4"	1-1/2"	236#	1056#	30 SF
3/8"	1-1/2"	308#	1320#	30 SF
1/2"	1-1/2"	380#	1680#	30 SF
3/4"	1-1/2"	452#	2040#	30 SF
1"	1-1/2"	524#	2400#	30 SF
1 1/4"	1-1/2"	596#	2760#	30 SF
1 1/2"	1-1/2"	668#	3120#	30 SF
1 3/4"	1-1/2"	740#	3480#	30 SF
2"	1-1/2"	812#	3840#	30 SF
2 1/4"	1-1/2"	884#	4200#	30 SF
2 1/2"	1-1/2"	956#	4560#	30 SF
2 3/4"	1-1/2"	1028#	4920#	30 SF
3"	1-1/2"	1100#	5280#	30 SF
3 1/4"	1-1/2"	1172#	5640#	30 SF
3 1/2"	1-1/2"	1244#	6000#	30 SF
3 3/4"	1-1/2"	1316#	6360#	30 SF
4"	1-1/2"	1388#	6720#	30 SF
4 1/4"	1-1/2"	1460#	7080#	30 SF
4 1/2"	1-1/2"	1532#	7440#	30 SF
4 3/4"	1-1/2"	1604#	7800#	30 SF
5"	1-1/2"	1676#	8160#	30 SF
5 1/4"	1-1/2"	1748#	8520#	30 SF
5 1/2"	1-1/2"	1820#	8880#	30 SF
5 3/4"	1-1/2"	1892#	9240#	30 SF
6"	1-1/2"	1964#	9600#	30 SF
6 1/4"	1-1/2"	2036#	9960#	30 SF
6 1/2"	1-1/2"	2108#	10320#	30 SF
6 3/4"	1-1/2"	2180#	10680#	30 SF
7"	1-1/2"	2252#	11040#	30 SF
7 1/4"	1-1/2"	2324#	11400#	30 SF
7 1/2"	1-1/2"	2396#	11760#	30 SF
7 3/4"	1-1/2"	2468#	12120#	30 SF
8"	1-1/2"	2540#	12480#	30 SF
8 1/4"	1-1/2"	2612#	12840#	30 SF
8 1/2"	1-1/2"	2684#	13200#	30 SF
8 3/4"	1-1/2"	2756#	13560#	30 SF
9"	1-1/2"	2828#	13920#	30 SF
9 1/4"	1-1/2"	2900#	14280#	30 SF
9 1/2"	1-1/2"	2972#	14640#	30 SF
9 3/4"	1-1/2"	3044#	15000#	30 SF
10"	1-1/2"	3116#	15360#	30 SF
10 1/4"	1-1/2"	3188#	15720#	30 SF
10 1/2"	1-1/2"	3260#	16080#	30 SF
10 3/4"	1-1/2"	3332#	16440#	30 SF
11"	1-1/2"	3404#	16800#	30 SF
11 1/4"	1-1/2"	3476#	17160#	30 SF
11 1/2"	1-1/2"	3548#	17520#	30 SF
11 3/4"	1-1/2"	3620#	17880#	30 SF
12"	1-1/2"	3692#	18240#	30 SF
12 1/4"	1-1/2"	3764#	18600#	30 SF
12 1/2"	1-1/2"	3836#	18960#	30 SF
12 3/4"	1-1/2"	3908#	19320#	30 SF
13"	1-1/2"	3980#	19680#	30 SF
13 1/4"	1-1/2"	4052#	20040#	30 SF
13 1/2"	1-1/2"	4124#	20400#	30 SF
13 3/4"	1-1/2"	4196#	20760#	30 SF
14"	1-1/2"	4268#	21120#	30 SF
14 1/4"	1-1/2"	4340#	21480#	30 SF
14 1/2"	1-1/2"	4412#	21840#	30 SF
14 3/4"	1-1/2"	4484#	22200#	30 SF
15"	1-1/2"	4556#	22560#	30 SF
15 1/4"	1-1/2"	4628#	22920#	30 SF
15 1/2"	1-1/2"	4700#	23280#	30 SF
15 3/4"	1-1/2"	4772#	23640#	30 SF
16"	1-1/2"	4844#	24000#	30 SF
16 1/4"	1-1/2"	4916#	24360#	30 SF
16 1/2"	1-1/2"	4988#	24720#	30 SF
16 3/4"	1-1/2"	5060#	25080#	30 SF
17"	1-1/2"	5132#	25440#	30 SF
17 1/4"	1-1/2"	5204#	25800#	30 SF
17 1/2"	1-1/2"	5276#	26160#	30 SF
17 3/4"	1-1/2"	5348#	26520#	30 SF
18"	1-1/2"	5420#	26880#	30 SF
18 1/4"	1-1/2"	5492#	27240#	30 SF
18 1/2"	1-1/2"	5564#	27600#	30 SF
18 3/4"	1-1/2"	5636#	27960#	30 SF
19"	1-1/2"	5708#	28320#	30 SF
19 1/4"	1-1/2"	5780#	28680#	30 SF
19 1/2"	1-1/2"	5852#	29040#	30 SF
19 3/4"	1-1/2"	5924#	29400#	30 SF
20"	1-1/2"	5996#	29760#	30 SF
20 1/4"	1-1/2"	6068#	30120#	30 SF
20 1/2"	1-1/2"	6140#	30480#	30 SF
20 3/4"	1-1/2"	6212#	30840#	30 SF
21"	1-1/2"	6284#	31200#	30 SF
21 1/4"	1-1/2"	6356#	31560#	30 SF
21 1/2"	1-1/2"	6428#	31920#	30 SF
21 3/4"	1-1/2"	6500#	32280#	30 SF
22"	1-1/2"	6572#	32640#	30 SF
22 1/4"	1-1/2"	6644#	33000#	30 SF
22 1/2"	1-1/2"	6716#	33360#	30 SF
22 3/4"	1-1/2"	6788#	33720#	30 SF
23"	1-1/2"	6860#	34080#	30 SF
23 1/4"	1-1/2"	6932#	34440#	30 SF
23 1/2"	1-1/2"	7004#	34800#	30 SF
23 3/4"	1-1/2"	7076#	35160#	30 SF
24"	1-1/2"	7148#	35520#	30 SF
24 1/4"	1-1/2"	7220#	35880#	30 SF
24 1/2"	1-1/2"	7292#	36240#	30 SF
24 3/4"	1-1/2"	7364#	36600#	30 SF
25"	1-1/2"	7436#	36960#	30 SF
25 1/4"	1-1/2"	7508#	37320#	30 SF
25 1/2"	1-1/2"	7580#	37680#	30 SF
25 3/4"	1-1/2"	7652#	38040#	30 SF
26"	1-1/2"	7724#	38400#	30 SF
26 1/4"	1-1/2"	7796#	38760#	30 SF
26 1/2"	1-1/2"	7868#	39120#	30 SF
26 3/4"	1-1/2"	7940#	39480#	30 SF
27"	1-1/2"	8012#	39840#	30 SF
27 1/4"	1-1/2"	8084#	40200#	30 SF
27 1/2"	1-1/2"	8156#	40560#	30 SF
27 3/4"	1-1/2"	8228#	40920#	30 SF
28"	1-1/2"	8300#	41280#	30 SF
28 1/4"	1-1/2"	8372#	41640#	30 SF
28 1/2"	1-1/2"	8444#	42000#	30 SF
28 3/4"	1-1/2"	8516#	42360#	30 SF
29"	1-1/2"	8588#	42720#	30 SF
29 1/4"	1-1/2"	8660#	43080#	30 SF
29 1/2"	1-1/2"	8732#	43440#	30 SF
29 3/4"	1-1/2"	8804#	43800#	30 SF
30"	1-1/2"	8876#	44160#	30 SF
30 1/4"	1-1/2"	8948#	44520#	30 SF
30 1/2"	1-1/2"	9020#	44880#	30 SF
30 3/4"	1-1/2"	9092#	45240#	30 SF
31"	1-1/2"	9164#	45600#	30 SF
31 1/4"	1-1/2"	9236#	45960#	30 SF
31 1/2"	1-1/2"	9308#	46320#	30 SF
31 3/4"	1-1/2"	9380#	46680#	30 SF
32"	1-1/2"	9452#	47040#	30 SF
32 1/4"	1-1/2"	9524#	47400#	30 SF
32 1/2"	1-1/2"	9596#	47760#	30 SF
32 3/4"	1-1/2"	9668#	48120#	30 SF
33"	1-1/2"	9740#	48480#	30 SF
33 1/4"	1-1/2"	9812#	48840#	30 SF
33 1/2"	1-1/2"	9884#	49200#	30 SF
33 3/4"	1-1/2"	9956#	49560#	30 SF
34"	1-1/2"	10028#	49920#	30 SF
34 1/4"	1-1/2"	10100#	50280#	30 SF
34 1/2"	1-1/2"	10172#	50640#	30 SF
34 3/4"	1-1/2"	10244#	51000#	30 SF
35"	1-1/2"	10316#	51360#	30 SF
35 1/4"	1-1/2"	10388#	51720#	30 SF
35 1/2"	1-1/2"	10460#	52080#	30 SF
35 3/4"	1-1/2"	10532#	52440#	30 SF
36"	1-1/2"	10604#	52800#	30 SF
36 1/4"	1-1/2"	10676#	53160#	30 SF
36 1/2"	1-1/2"	10748#	53520#	30 SF
36 3/4"	1-1/2"	10820#	53880#	30 SF
37"	1-1/2"	10892#	54240#	30 SF
37 1/4"	1-1/2"	10964#	54600#	30 SF
37 1/2"	1-1/2"	11036#	54960#	30 SF
37 3/4"	1-1/2"	11108#	55320#	30 SF
38"	1-1/2"	11180#	55680#	30 SF
38 1/4"	1-1/2"	11252#	56040#	30 SF
38 1/2"	1-1/2"	11324#	56400#	30 SF
38 3/4"	1-1/2"	11396#	56760#	30 SF
39"	1-1/2"	11468#	57120#	30 SF
39 1/4"	1-1/2"	11540#	57480#	30 SF
39 1/2"	1-1/2"	11612#	57840#	30 SF
39 3/4"	1-1/2"	11684#	58200#	30 SF
40"	1-1/2"	11756#	58560#	30 SF
40 1/4"	1-1/			