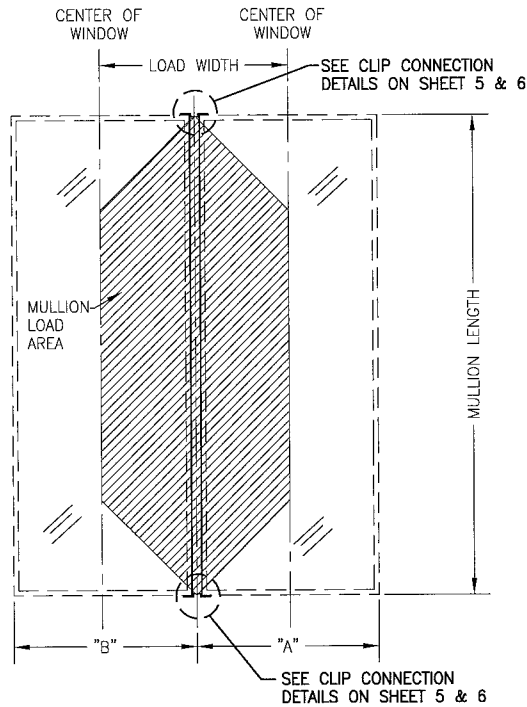




FIXED WINDOW TO FIXED WINDOW

$$\text{LOAD WIDTH} = (A + B)/2$$

NOTE: MULLION MAY BE HORIZONTAL OR VERTICAL

FIXED WINDOW TO FIXED WINDOW TABLE

LENGTH (IN.)	LOAD WIDTH (IN.) A+B 2	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
60	54	100.0	100.0	100.0	100.0	100.0	100.0
	60	97.5	97.5	100.0	100.0	100.0	100.0
	66	97.5	97.5	100.0	100.0	100.0	100.0
	72	97.5	97.5	100.0	100.0	100.0	100.0
66	42	100.0	100.0	100.0	100.0	100.0	100.0
	48	91.6	91.6	100.0	100.0	100.0	100.0
	54	81.4	81.4	100.0	100.0	100.0	100.0
	60	73.3	73.3	100.0	100.0	100.0	100.0
72	66	66.6	66.6	97.3	97.3	100.0	100.0
	72	66.6	66.6	100.0	100.0	100.0	100.0
	24	100.0	100.0	100.0	100.0	100.0	100.0
	30	100.0	100.0	100.0	100.0	100.0	100.0
84	36	94.1	94.1	100.0	100.0	100.0	100.0
	42	80.6	80.6	100.0	100.0	100.0	100.0
	48	70.6	70.6	100.0	100.0	100.0	100.0
	54	62.7	62.7	91.6	91.6	100.0	100.0
96	60	56.4	56.4	82.5	82.5	100.0	96.7
	66	51.3	51.3	75.0	75.0	100.0	94.7
	72	47.0	47.0	68.7	68.7	100.0	94.0
	24	88.9	88.9	100.0	100.0	100.0	100.0
108	30	71.1	71.1	100.0	100.0	100.0	100.0
	36	59.2	59.2	86.5	86.5	100.0	100.0
	42	50.8	50.8	74.2	74.2	100.0	100.0
	48	44.4	44.4	64.9	64.9	100.0	95.2
120	54	39.5	39.5	57.7	57.7	100.0	89.1
	60	35.5	35.5	51.9	51.9	90.8	84.6
	66	32.3	32.3	47.2	47.2	82.6	81.5
	72	29.6	29.6	43.3	43.3	75.7	75.7
132	24	59.5	59.5	87.0	87.0	100.0	100.0
	30	47.6	47.6	69.6	69.6	100.0	100.0
	36	39.7	39.7	58.0	58.0	100.0	97.6
	42	34.0	34.0	49.7	49.7	86.9	86.9
144	48	29.8	29.8	43.5	43.5	76.0	76.0
	54	26.5	26.5	38.7	38.7	67.6	67.6
	60	-	-	34.8	34.8	60.8	60.8
	66	-	-	31.6	31.6	55.3	55.3
168	72	-	-	29.0	29.0	50.7	50.7

ALL ALUMINUM TUBES SHALL BE 6061-T6 OR 6005-T5 ALUMINUM

FIXED WINDOW TO FIXED WINDOW TABLE

LENGTH (IN.)	LOAD WIDTH (IN.) A+B 2	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
24	41.8	41.8	61.1	61.1	100.0	100.0	100.0
	30	33.4	33.4	48.9	48.9	85.5	85.5
	36	27.9	27.9	40.7	40.7	71.2	71.2
	42	-	-	34.9	34.9	61.0	61.0
48	-	-	-	30.5	30.5	53.4	53.4
	54	-	-	27.1	27.1	47.5	47.5
	60	-	-	-	-	42.7	42.7
	66	-	-	-	-	38.8	38.8
60	72	-	-	-	-	35.6	35.6
	24	30.5	30.5	44.5	44.5	77.9	77.9
	30	24.4	24.4	35.6	35.6	62.3	62.3
	36	-	-	29.7	29.7	51.9	51.9
72	42	-	-	25.4	25.4	44.5	44.5
	48	-	-	-	-	38.9	38.9
	54	-	-	-	-	34.6	34.6
	60	-	-	-	-	31.1	31.1
84	66	-	-	-	-	28.3	28.3
	72	-	-	-	-	26.0	26.0
	24	-	-	33.5	33.5	58.5	58.5
	30	-	-	26.8	26.8	46.8	46.8
96	36	-	-	-	-	39.0	39.0
	42	-	-	-	-	33.4	33.4
	48	-	-	-	-	29.3	29.3
	54	-	-	-	-	26.0	26.0
108	60	-	-	25.8	25.8	45.1	45.1
	66	-	-	-	-	40.0	40.0
	72	-	-	-	-	35.7	35.7
	24	-	-	-	-	25.7	25.7

CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.

CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.

NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.

EVALUATION OF THIS PRODUCT IS BASED ON APPLICABLE STANDARDS AND/OR INFORMATION & RESULTS FROM APPLICABLE TEST REPORTS. THE FLORIDA BUILDING CODE VERSION CONSIDERED WITH THIS EVALUATION WAS THAT IN FORCE AT THE TIME OF THE EVALUATION. IN THE EVENT OF CODE VERSION CHANGES/UPDATES OR IN THE EVENT THAT NEW OR ADDITIONAL TESTING IS COMPLETED ON THIS PRODUCT, PRIOR TO STATING CODE COMPLIANCE WITH THE STATE, THE MANUFACTURER SHALL CONFIRM WITH THE EVALUATION ENGINEER OF RECORD THAT EVERYTHING SPECIFIED HERE-IN IS CURRENT WITH ALL CURRENT TESTING, CODES AND APPLICABLE STANDARDS.

GENERAL NOTES (ALL DRAWING SHEETS):

1. THE PRODUCT HERE-IN IS A CLIPPED MULLION APPROVAL. FOR POTENTIAL UNCLIPPED MULLION CONDITIONS, SEE RESPECTIVE PRODUCTS APPROVAL(S) WHERE APPLICABLE.
2. CONDITIONS OUTSIDE OF THOSE SPECIFIED HERE-IN SHALL BE SUBJECT TO JOB SPECIFIC REVIEW AND CERTIFICATION BY A FLORIDA LICENSED STRUCTURAL ENGINEER.
3. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & SHALL NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS. SPECIFIED ANCHOR EMBED TO BASE MATERIAL SHALL BE BEYOND WALL FINISH OR STUCCO.
4. THIS PRODUCT HAS BEEN DESIGNED IN ACCORDANCE WITH AND MEETS THE REQUIREMENTS OF THE FLORIDA BUILDING CODE (FBC) INCLUDING HIGH VELOCITY HURRICANE ZONES (HVHZ) & IS LARGE MISSILE IMPACT RATED.
5. IMPACT SHUTTERS ARE NOT REQUIRED WITH THIS PRODUCT.
6. THESE MULLION SYSTEMS HAVE BEEN TESTED, ANALYZED & APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN IN THE "ALLOWABLE DESIGN PRESSURE TABLE(S)".
7. ALL ANCHORS SECURING PRODUCT FRAMES TO PRESSURE TREATED BUCKS OR WOOD FRAMING SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE PRESSURE TREATING CHEMICALS IN THE WOOD.
8. DETERMINE THE POSITIVE & NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, A DIRECTIONALITY FACTOR OF $K_d = 0.85$ MAY BE APPLIED PER THE ASCE-7 STANDARD.
9. ALL OPENINGS AND SUPPORTING SUBSTRATE MUST BE DESIGNED AND CONSTRUCTED TO WITHSTAND ALL LOADS TRANSFERRED FROM THE MULLIONS AND SUPPORTED WINDOWS/DOORS.
10. THIS MULLION PRODUCT HAS BEEN TESTED IN ACCORDANCE WITH FBC PROTOCOLS TAS-201, TAS-202 & TAS-203 FOR LARGE MISSILE IMPACT, STRUCTURAL AND CYCLIC TESTING.
11. ALL SIERRA PACIFIC WINDOW & DOOR PRODUCTS ARE APPLICABLE FOR USE WITH THESE MULLIONS PROVIDING THEY HOLD AN IMPACT OR NON-IMPACT FLORIDA APPROVAL.

12. ALLOWABLE PRESSURE ON THE MULLED UNIT SHALL BE THE LESSER OF THAT ALLOWABLE PRESSURE STATED FOR THE MULLION OR THE WINDOWS/DOORS IT IS TO SUPPORT.
13. FOR WINDOW OR DOOR FRAME TO OPENING ATTACHMENT, SEE THE RESPECTIVE WINDOW OR DOOR APPROVAL.
14. WINDOWS AND DOORS SHALL BE ANCHORED TO THE MULLION PER THEIR RESPECTIVE PRODUCT APPROVAL. SPECIFIED FOR AN ALUMINUM SUBSTRATE. IF NOT SPECIFIED FOR ATTACHMENT TO AN ALUMINUM SUBSTRATE, THE WINDOW/DOOR SHALL BE DIRECT FRAME SCREWED TO THE MULLION THE SAME AS SPECIFIED FOR A WOOD SUBSTRATE EXCEPT THE SCREWS SHALL BE SELF TAP/DRILL SCREWS. IF NEITHER OF THESE SITUATIONS APPLY, ATTACHMENT OF THE WINDOW/DOOR TO THE MULLION SHALL BE DETERMINED BY A FLORIDA LICENSED ENGINEER. THE LOADS IN THESE TABLES CONSIDER WORSE CASE OF DEFLECTION, STRESS & END REACTION.
15. ALL TUBES SHALL BE MINIMUM 6061-T6 OR 6005-T5 ALUMINUM. ALL END CLIPS AND CONNECTION ANGLES SHALL BE MINIMUM 6063-T5 ALUMINUM.
16. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF FLORIDA BUILDING CODE.
17. TO THE BEST OF OUR KNOWLEDGE, THE PRODUCT SHOWN HEREIN IS QUALITY ASSURED BY A FLORIDA STATE APPROVED CERTIFICATION/QA ENTITY & SHALL BE LABELED IN ACCORDANCE WITH THE FBC AND THE FLORIDA DEPARTMENT OF BUSINESS & PROFESSIONAL REGULATION SPECIFICATIONS. THESE DRAWINGS SHOW ALL APPLICABLE ELEVATION, COMBINATION, INSTALLATION & COMPARATIVE ANALYSIS CONDITIONS AS DETERMINED THROUGH TESTING & ENGINEERING RATIONAL ANALYSIS. PRODUCT ASSEMBLY SHALL BE IN ACCORDANCE WITH THESE DRAWINGS, THE MANUFACTURER'S QUALITY ASSURANCE SPECIFICATIONS & TESTING REPORTS.
18. CERTIFICATION OF THIS PRODUCT SHALL BE CONSIDERED VOID IF IT IS INSTALLED WITHOUT A BUILDING PERMIT FROM THE APPLICABLE LOCAL BUILDING DEPARTMENT OR IF IT IS INSTALLED BY ANYONE OTHER THAN A LICENSED CONTRACTOR EXPERIENCED WITH INSTALLATIONS OF THIS TYPE OF PRODUCT.

THESE DRAWINGS ARE APPLICABLE ONLY TO THE PRODUCT SPECIFIED. THEY MAY NOT BE USED FOR THE ASSEMBLY AND/OR INSTALLATION OF ANY OTHER PRODUCT NOR MAY THEY BE USED FOR RATIONAL AND/OR LOCAL APPROVAL OF ANY PRODUCT NOT PRODUCED BY THE MANUFACTURER SHOWN ON THESE DRAWINGS.

DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1-24		DATE: 07/24/01	
NO.	REVISION	DESCRIPTION	DATE
1	BY	DATE	
2	DATE		
3	DATE		
4	DATE		
5	DATE		
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100	DATE		

CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS

MANUFACTURER

SIERRA PACIFIC WINDOWS
575 S. WHELEN AVE.
MEDFORD, WI 54451
800-433-4873

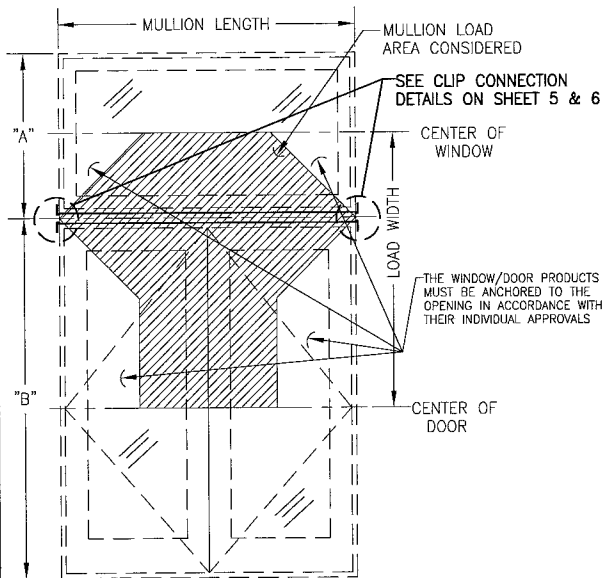
CONSULTANTS

W. SCHAEFER ENGINEERING
W. CONSULTING, P.A. (CA 6809)
7480 150TH COURT NORTH
PALM BEACH GARDENS, FL 33418
PHONE: 561-744-3424

DRAWING TITLE

1047A

SHEET NO. 1 OF 6



**TWO (2) SINGLE DOORS OR WINDOWS
OR A DOUBLE DOOR OR CASEMENT
WINDOW WITH A SINGLE FIXED TRANSOM**

$$\text{LOAD WIDTH} = (A + B)/2$$

NOTE: DOORS/WINDOWS MAY BE OPERABLE OR FIXED.

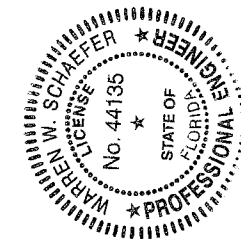
CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.

CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.

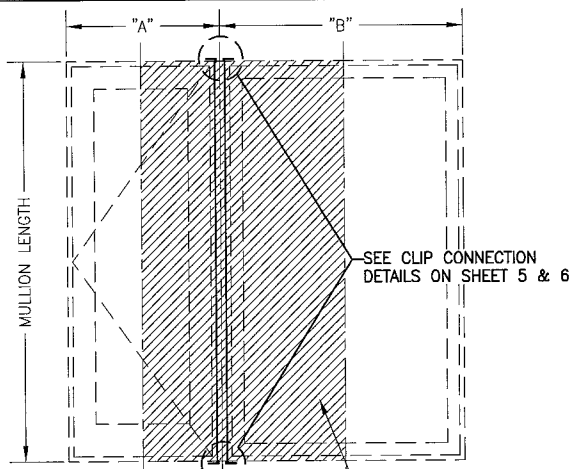
NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.

DOUBLE DOOR WITH TRANSOM							
LENGTH (IN.)	LOAD WIDTH (IN.) A+B 2	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
48	78	100.0	100.0	100.0	100.0	100.0	100.0
	84	100.0	97.1	100.0	97.1	100.0	97.1
54	72	100.0	100.0	100.0	100.0	100.0	100.0
	78	98.1	93.0	100.0	93.0	100.0	93.0
60	84	91.1	86.3	100.0	86.3	100.0	86.3
	54	100.0	100.0	100.0	100.0	100.0	100.0
66	60	97.5	97.5	100.0	100.0	100.0	100.0
	66	88.7	88.7	100.0	98.9	100.0	98.9
72	72	81.3	81.3	100.0	90.7	100.0	90.7
	78	75.0	75.0	100.0	83.7	100.0	83.7
78	84	69.7	69.7	100.0	77.7	100.0	77.7
	48	91.6	91.6	100.0	100.0	100.0	100.0
84	54	81.4	81.4	100.0	100.0	100.0	100.0
	60	73.3	73.3	100.0	98.9	100.0	98.9
90	66	66.6	66.6	97.3	89.9	100.0	89.9
	72	61.1	61.1	89.2	82.4	100.0	82.4
96	78	56.4	56.4	82.4	76.1	100.0	76.1
	84	52.3	52.3	76.5	70.6	95.0	70.6
102	48	70.6	70.6	100.0	100.0	100.0	100.0
	54	62.7	62.7	91.6	91.6	100.0	100.0
108	60	56.4	56.4	82.5	82.5	100.0	90.7
	66	51.3	51.3	75.0	75.0	100.0	82.4
114	72	47.0	47.0	68.7	68.7	100.0	75.6
	78	43.4	43.4	63.4	63.4	93.8	69.7
120	84	40.3	40.3	58.9	58.9	87.1	64.8
	48	55.5	55.5	81.1	81.1	100.0	100.0
126	54	49.3	49.3	72.1	72.1	100.0	93.0
	60	44.4	44.4	64.9	64.9	100.0	83.7
132	66	40.4	40.4	59.0	59.0	100.0	76.1
	72	37.0	37.0	54.0	54.0	93.8	69.7
138	78	34.1	34.1	49.9	49.9	86.6	64.4
	84	31.7	31.7	46.3	46.3	80.4	59.8
144	48	44.4	44.4	64.9	64.9	100.0	97.1
	54	39.5	39.5	57.7	57.7	100.0	86.3
150	60	35.5	35.5	51.9	51.9	90.8	77.7
	66	32.3	32.3	47.2	47.2	82.6	70.6
156	72	29.6	29.6	43.3	43.3	75.7	64.8
	78	27.3	27.3	39.9	39.9	69.9	59.8
162	84	25.4	25.4	37.1	37.1	64.9	55.5

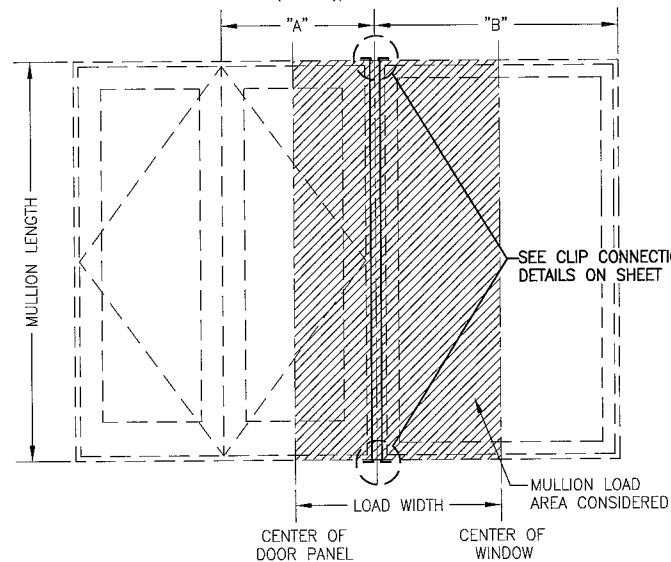
ALL ALUMINUM TUBES SHALL BE 6061-T6 OR 6005-T5 ALUMINUM



DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1-24		DATE: 07/24/01	
DATE	BY	REVISION DESCRIPTION	NO.
DRAWING TITLE		CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS	
CONSULTANTS		MANUFACTURER	
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)		SIERRA PACIFIC WINDOWS	
7480 130TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424		575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873	
CERTIFICATION	 WARREN W. SCHAEFER, P.E. No. 44135 STATE OF FLORIDA PROFESSIONAL ENGINEER		
DRAWING NO.	REV.		
1047A	C		
SHEET NO.	OF		
2	6		



CENTER OF DOOR OR WINDOW
CENTER OF WINDOW
SINGLE OPERABLE DOOR/WINDOW TO A SINGLE OPERABLE OR FIXED DOOR/WINDOW
LOAD WIDTH = (A + B)/2



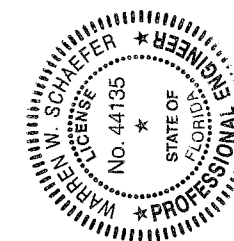
CENTER OF DOOR PANEL
CENTER OF WINDOW
MULTI-PANEL DOOR/WINDOW TO A SINGLE DOOR OR FIXED SIDELIGHT
LOAD WIDTH = (A + B)/2

DOOR OR CASEMENT WITH SIDELIGHT							
LENGTH (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		A+B 2	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"
48	48	100.0	100.0	100.0	100.0	100.0	100.0
	54	100.0	100.0	100.0	100.0	100.0	100.0
	60	100.0	95.2	100.0	95.2	100.0	95.2
54	42	100.0	100.0	100.0	100.0	100.0	100.0
	48	100.0	100.0	100.0	100.0	100.0	100.0
	54	100.0	94.0	100.0	94.0	100.0	94.0
60	60	100.0	84.6	100.0	84.6	100.0	84.6
	36	100.0	100.0	100.0	100.0	100.0	100.0
	42	100.0	100.0	100.0	100.0	100.0	100.0
66	48	100.0	95.2	100.0	95.2	100.0	95.2
	54	100.0	84.6	100.0	84.6	100.0	84.6
	60	97.5	76.2	100.0	76.2	100.0	76.2
72	36	100.0	100.0	100.0	100.0	100.0	100.0
	42	100.0	98.9	100.0	98.9	100.0	98.9
	48	91.6	86.5	100.0	86.5	100.0	86.5
78	54	81.4	76.9	100.0	76.9	100.0	76.9
	60	73.3	69.2	93.1	69.2	93.1	69.2
	30	100.0	100.0	100.0	100.0	100.0	100.0
84	36	94.1	94.1	100.0	100.0	100.0	100.0
	42	80.6	80.6	100.0	90.7	100.0	90.7
	48	70.6	70.6	100.0	79.3	100.0	79.3
90	54	62.7	62.7	91.6	70.5	94.8	70.5
	60	56.4	56.4	82.5	63.5	85.3	63.5

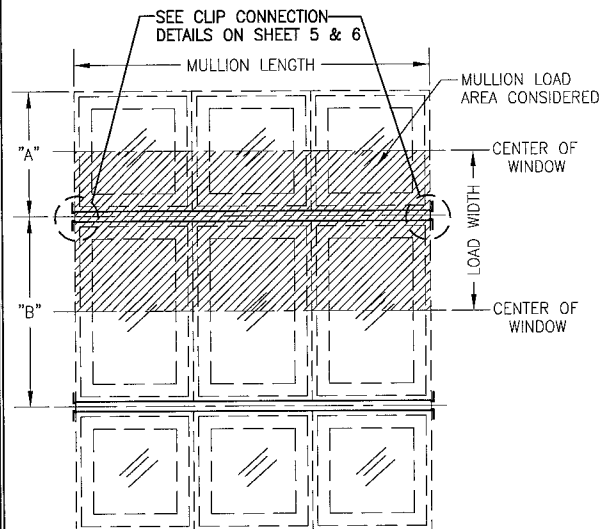
DOOR OR CASEMENT WITH SIDELIGHT							
LENGTH (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		A+B 2	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"
78	24	100.0	100.0	100.0	100.0	100.0	100.0
	30	88.8	88.8	100.0	100.0	100.0	100.0
	36	74.0	74.0	100.0	97.6	100.0	97.6
84	42	63.4	63.4	92.7	83.7	100.0	83.7
	48	55.5	55.5	81.1	73.2	98.5	73.2
	54	49.3	49.3	72.1	65.1	87.5	65.1
90	60	44.4	44.4	64.9	58.6	78.8	58.6
	24	100.0	100.0	100.0	100.0	100.0	100.0
	30	82.3	82.3	100.0	100.0	100.0	100.0
96	36	68.6	68.6	100.0	95.2	100.0	95.2
	42	58.8	58.8	85.9	81.6	100.0	81.6
	48	51.4	51.4	75.1	71.4	96.0	71.4
102	54	45.7	45.7	66.8	63.5	85.3	63.5
	60	41.1	41.1	60.1	57.1	76.8	57.1
	24	88.9	88.9	100.0	100.0	100.0	100.0
108	30	71.1	71.1	100.0	100.0	100.0	100.0
	36	59.2	59.2	86.5	86.5	100.0	90.7
	42	50.8	50.8	74.2	74.2	100.0	77.7
114	48	44.4	44.4	64.9	64.9	91.4	68.0
	54	39.5	39.5	57.7	57.7	81.3	60.4
	60	35.5	35.5	51.9	51.9	73.1	54.4
120	24	67.6	67.6	98.8	98.8	100.0	100.0
	30	54.1	54.1	79.1	79.1	100.0	99.3
	36	45.1	45.1	65.9	65.9	100.0	82.8
126	42	38.7	38.7	56.5	56.5	95.4	71.0
	48	33.8	33.8	49.4	49.4	83.5	62.1
	54	30.1	30.1	43.9	43.9	74.2	55.2
132	60	27.1	27.1	39.5	39.5	66.8	49.7
	24	59.5	59.5	87.0	87.0	100.0	100.0
	30	47.6	47.6	69.6	69.6	100.0	95.2
138	36	39.7	39.7	58.0	58.0	100.0	79.3
	42	34.0	34.0	49.7	49.7	86.9	68.0
	48	29.8	29.8	43.5	43.5	76.0	59.5
144	54	26.5	26.5	38.7	38.7	67.6	52.9
	60	23.8	23.8	34.8	34.8	60.8	47.6

ALL ALUMINUM TUBES SHALL BE 6061-T6 OR 6005-T5 ALUMINUM

CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.
CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.
NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.



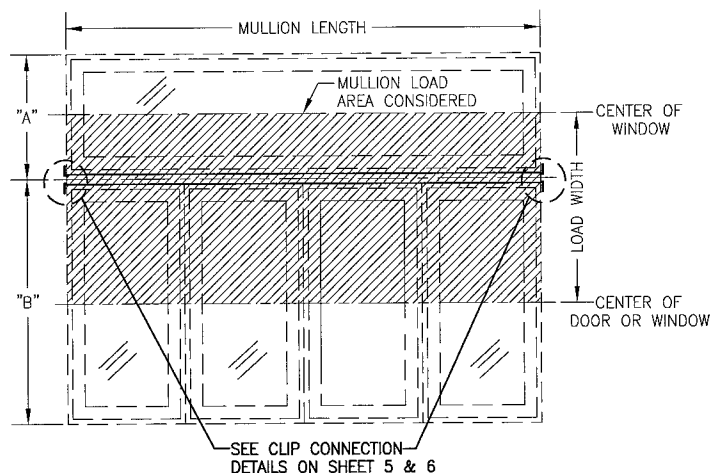
DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1-24		DATE: 07/24/01	
DATE	BY	REVISION DESCRIPTION	NO.
CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS MANUFACTURER SIERRA PACIFIC WINDOWS 575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873			
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424			
CERTIFICATION JUN 16 2016 WARREN W. SCHAEFER, P.E. No. 44135			
DRAWING NO. 1047A		REV. C	
SHEET NO. 3		OF 6	



MULTIPLE WINDOWS/DOORS WITH TRANSOM

$$\text{LOAD WIDTH} = (A + B)/2$$

(CONTINUOUS MULLION MAY BE HORIZONTAL OR VERTICAL (HORIZONTAL SHOWN))



MULTIPLE WINDOWS/DOORS WITH TRANSOM

$$\text{LOAD WIDTH} = (A + B)/2$$

1. TRANSOM MAY BE SINGLE OR MULTIPLE WINDOWS.
2. CONTINUOUS MULLION MAY BE HORIZONTAL OR VERTICAL (HORIZONTAL SHOWN).

MULTIPLE WINDOWS/DOORS

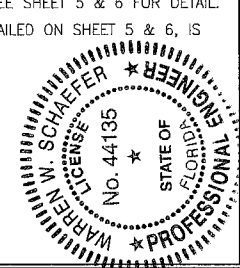
LENGTH (IN.)	LOAD WIDTH (IN.) A+B 2	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
36	66	100.0	100.0	100.0	100.0	100.0	100.0
	72	100.0	100.0	100.0	100.0	100.0	100.0
	78	100.0	97.6	100.0	97.6	100.0	97.6
42	54	100.0	100.0	100.0	100.0	100.0	100.0
	60	100.0	100.0	100.0	100.0	100.0	100.0
	66	100.0	98.9	100.0	98.9	100.0	98.9
48	72	100.0	90.7	100.0	90.7	100.0	90.7
	78	100.0	83.7	100.0	83.7	100.0	83.7
	84	100.0	100.0	100.0	100.0	100.0	100.0
54	54	100.0	100.0	100.0	100.0	100.0	100.0
	60	100.0	95.2	100.0	95.2	100.0	95.2
	66	100.0	86.5	100.0	86.5	100.0	86.5
60	72	100.0	79.3	100.0	79.3	100.0	79.3
	78	98.5	73.2	98.5	73.2	98.5	73.2
66	42	100.0	100.0	100.0	100.0	100.0	100.0
	48	100.0	100.0	100.0	100.0	100.0	100.0
	54	100.0	94.0	100.0	94.0	100.0	94.0
72	60	100.0	84.6	100.0	84.6	100.0	84.6
	66	100.0	76.9	100.0	76.9	100.0	76.9
	72	94.8	70.5	94.8	70.5	94.8	70.5
78	78	87.5	65.1	87.5	65.1	87.5	65.1
84	36	100.0	100.0	100.0	100.0	100.0	100.0
	42	100.0	100.0	100.0	100.0	100.0	100.0
	48	100.0	95.2	100.0	95.2	100.0	95.2
84	54	100.0	84.6	100.0	84.6	100.0	84.6
	60	97.5	76.2	100.0	76.2	100.0	76.2
	66	88.7	69.2	93.1	69.2	93.1	69.2
90	72	81.3	63.5	85.3	63.5	85.3	63.5
	78	75.0	58.6	78.8	58.6	78.8	58.6
96	30	100.0	100.0	100.0	100.0	100.0	100.0
	36	94.1	94.1	100.0	100.0	100.0	100.0
	42	80.6	80.6	100.0	90.7	100.0	90.7
102	48	70.6	70.6	100.0	79.3	100.0	79.3
	54	62.7	62.7	91.6	70.5	94.8	70.5
	60	56.4	56.4	82.5	63.5	85.3	63.5
108	66	51.3	51.3	75.0	57.7	77.6	57.7
	72	47.0	47.0	68.7	52.9	71.1	52.9
	78	43.4	43.4	63.4	48.8	65.6	48.8
114	24	88.9	88.9	100.0	100.0	100.0	100.0
	30	66.6	66.6	97.4	97.4	100.0	100.0
	36	59.2	59.2	86.5	86.5	100.0	90.7
120	42	50.8	50.8	74.2	74.2	100.0	77.7
	48	44.4	44.4	64.9	64.9	91.4	68.0
	54	39.5	39.5	57.7	57.7	81.3	60.4
126	60	35.5	35.5	51.9	51.9	73.1	54.4
	66	32.3	32.3	47.2	47.2	66.5	49.5
	72	29.6	29.6	43.3	43.3	61.0	45.3
132	78	27.3	27.3	39.9	39.9	56.3	41.8

ALL ALUMINUM TUBES SHALL BE 6061-T6 OR 6005-T5 ALUMINUM

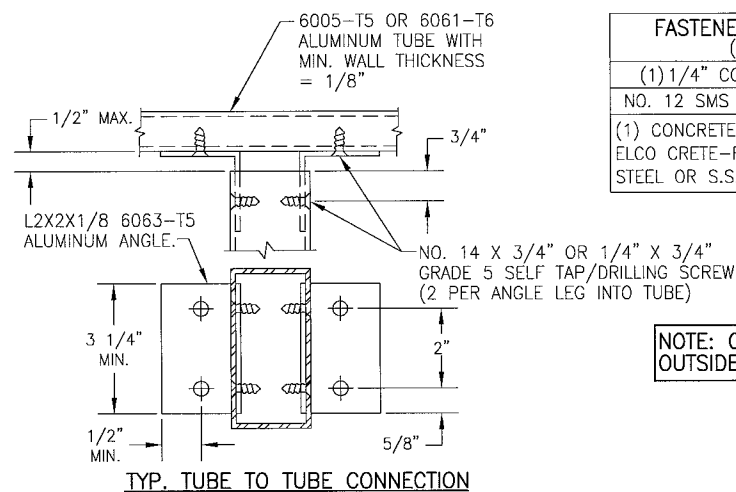
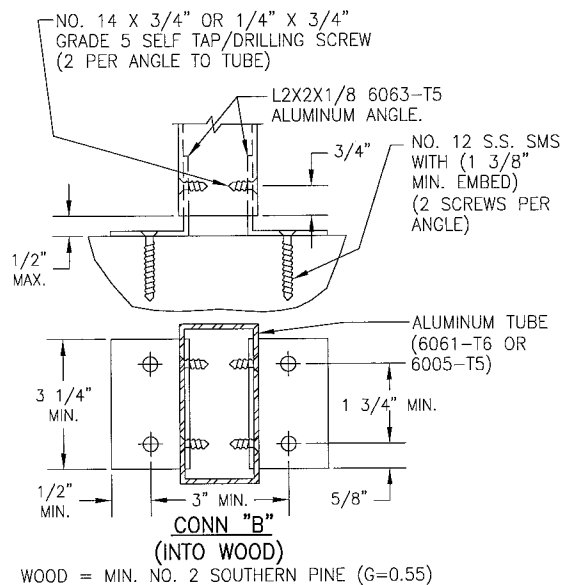
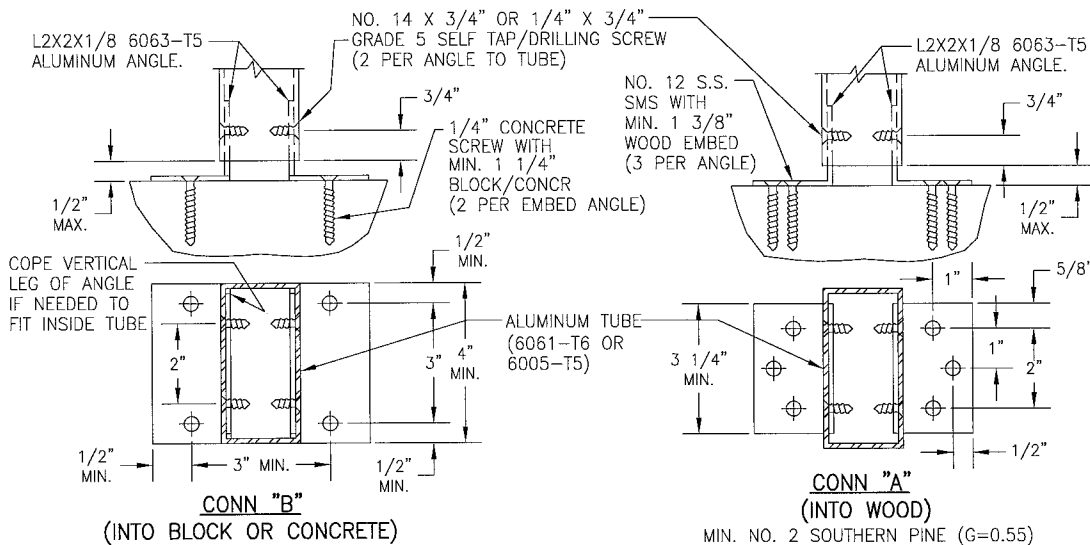
MULTIPLE WINDOWS/DOORS

LENGTH (IN.)	LOAD WIDTH (IN.) A+B 2	ALLOWABLE PRESSURES (PSF)					
		4X1X1/8 TUBE		4X2X1/8 TUBE		5X2X1/8 TUBE	
		CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"	CONN. "A"	CONN. "B"
24	24	59.5	59.5	87.0	87.0	100.0	100.0
	30	47.6	47.6	69.6	69.6	100.0	95.2
	36	39.7	39.7	58.0	58.0	100.0	79.3
36	42	34.0	34.0	49.7	49.7	86.9	68.0
	48	29.8	29.8	43.5	43.5	76.0	59.5
	54	26.5	26.5	38.7	38.7	67.6	52.9
42	60	-	-	34.8	34.8	60.8	47.6
	66	-	-	31.6	31.6	55.3	43.3
	72	-	-	29.0	29.0	50.7	39.7
48	78	-	-	26.8	26.8	46.8	36.6
	84	41.8	41.8	61.1	61.1	100.0	100.0
	90	33.4	33.4	48.9	48.9	85.5	84.6
54	96	27.9	27.9	40.7	40.7	71.2	70.5
	102	23.9	23.9	34.9	34.9	61.0	60.4
	108	-	-	30.5	30.5	53.4	52.9
60	114	-	-	27.1	27.1	47.5	47.0
	120	-	-	24.4	24.4	42.7	42.3
	126	-	-	-	-	38.8	38.5
66	132	-	-	-	-	35.6	35.3
	138	-	-	-	-	32.9	32.5
	144	30.5	30.5	44.5	44.5	77.9	77.9
72	150	24.4	24.4	35.6	35.6	62.3	62.3
	156	-	-	29.7	29.7	51.9	51.9
	162	-	-	25.4	25.4	44.5	44.5
78	168	-	-	-	-	38.9	38.9
	174	-	-	-	-	34.6	34.6
	180	-	-	-	-	31.1	31.1
84	186	-	-	-	-	28.3	28.3
	192	-	-	-	-	26.0	26.0
	198	-	-	33.5	33.5	58.5	58.5
90	204	-	-	26.8	26.8	46.8	46.8
	210	-	-	-	-	39.0	39.0
	216	-	-	-	-	33.4	33.4
96	222	-	-	-	-	29.3	29.3
	228	-	-	-	-	26.0	26.0
	234	-	-	25.8	25.8	45.1	45.1
102	240	-	-	-	-	36.0	36.0
	246	-	-	-	-	30.0	30.0
	252	-	-	-	-	25.7	25.7

CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.
CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.
NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.

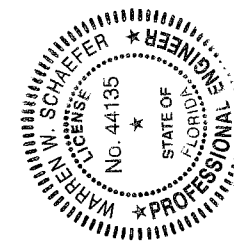


DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1-24		DATE: 07/24/01	
DATE	BY	REVISION DESCRIPTION	NO.
DRAWING TITLE		CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS	
CONSULTANTS		SIERRA PACIFIC WINDOWS	
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)		575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873	
7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424		MANUFACTURER	
CERTIFICATION		JUN 16 2015	
WARREN W. SCHAEFER, P.E. E. NO. 44135			
DRAWING NO.		REV.	
1047A		C	
SHEET NO.		4 OF 6	

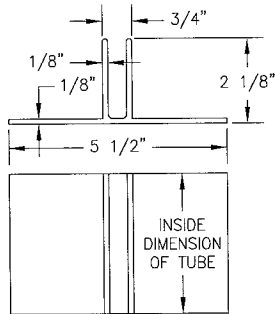


FASTENER EDGE DISTANCE REQUIRED (TO WOOD/CONCR./BLOCK)	
(1) 1/4" CONCRETE SCREWS	2 1/4"
NO. 12 SMS OR WOOD SCREWS	3/4"
(1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS, ELCO CRETE-FLEX, OR HILTI KWIK-CON II (HARDENED STEEL OR S.S.).	

NOTE: CLIPS MAY BE PLACED INSIDE OR OUTSIDE OF THE TUBE.



DRAWING TITLE CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS		DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1=3		DATE: 07/24/01			
NO.	REVISION	DESCRIPTION	BY	DATE	
MANUFACTURER SIERRA PACIFIC WINDOWS 575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873					
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-5424					
CERTIFICATION WARREN W. SCHAEFER, P.E. No. 44135 STATE OF FLORIDA JUN 16 2016					
DRAWING NO. 1047A		REV. C			
SHEET NO. 5		OF 6			

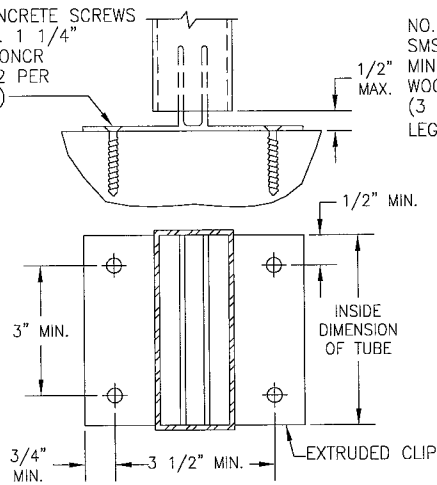


EXTRUDED CLIP
6063-T5 ALUMINUM

INSTALLATION INSTRUCTION:

1. SLIP CLIP INTO TUBE (CLIP MUST BE CUT TO THE INSIDE DIMENSION OF THE TUBE & BE CENTERED WITH THE TUBE). NOTE THAT NO SCREWING OF TUBE TO CLIP IS REQUIRED.
2. SECURE CLIP TO STRUCTURE USING FASTENING METHOD DESCRIBED WITH EACH CONNECTION TYPE "A" & "B" AND THE APPLICABLE OPTION CONSIDERING ALL DIMENSION REQUIREMENTS SPECIFIED AS MIN & MAX.

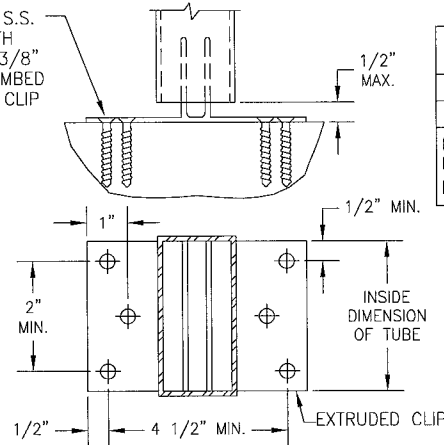
1/4" CONCRETE SCREWS
WITH MIN. 1 1/4"
BLOCK/CONCR
EMBED (2 PER
CLIP LEG)



CONN "B"
(INTO BLOCK OR CONCRETE)

IF REQUIRED TO FIT INSIDE A 4" TUBE,
THE VERTICAL LEGS MAY BE TRIMMED
TO FIT INSIDE THE TUBE.

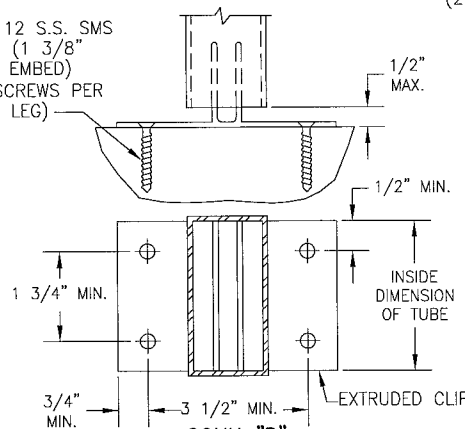
NO. 12 S.S.
SMS WITH
MIN. 1 3/8"
WOOD EMBED
(3 PER CLIP
LEG)



CONN "A"
(INTO WOOD)

MIN. NO. 2 SOUTHERN PINE (G=0.55)

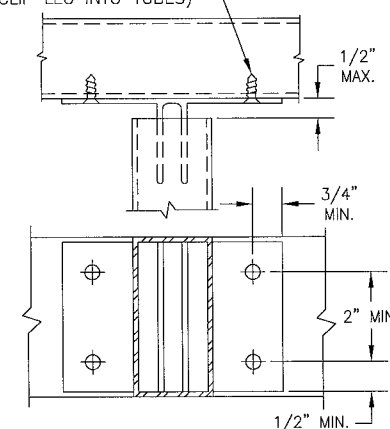
NO. 12 S.S. SMS
WITH (1 3/8"
MIN. EMBED)
(2 SCREWS PER
CLIP LEG)



CONN "B"
(INTO WOOD)

WOOD = MIN. NO. 2 SOUTHERN PINE (G=0.55)

NO. 14 X 3/4" OR 1/4" X 3/4"
GRADE 5 SELF TAP/DRILLING SCREW
(2 PER CLIP LEG INTO TUBES)



TYP. TUBE TO TUBE CONNECTION

**FASTENER EDGE DISTANCE REQUIRED
(TO WOOD/CONCR./BLOCK)**

(1) 1/4" CONCRETE SCREWS	2 1/4"
NO. 12 SMS OR WOOD SCREWS	3/4"

(1) CONCRETE SCREWS SHALL BE ELCO
ULTRACONS, ELCO CRETE-FLEX, OR HILTI
KWIK-CON II (HARDENED STEEL OR S.S.).



**MULLION END CONNECTION DETAILS
USING EXTRUDED CLIP**

DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1-3		DATE: 07/24/01	
NO.	REVISION DESCRIPTION	DATE	BY
DRAWING TITLE: CLIPPED IMPACT & NON-IMPACT ALUMINUM TUBE MULLIONS			
MANUFACTURER: SIERRA PACIFIC WINDOWS 575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873			
CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424			
CERTIFICATION	JUN 16 2016		
WARREN W. SCHAEFER, P.E. P.E. NO. 44135			
DRAWING NO.	REV.		
1047A	C		
SHEET NO.	OF		
6	6		