



MIAMI-DADE COUNTY, FLORIDA  
 METRO-DADE FLAGLER BUILDING  
 140 WEST FLAGLER STREET, SUITE 1603  
 MIAMI, FLORIDA 33130-1563  
 (305) 375-2901 FAX (305) 372-6339  
[www.miamidade.gov/buildingcode](http://www.miamidade.gov/buildingcode)

BUILDING CODE COMPLIANCE OFFICE (BCCO)  
 PRODUCT CONTROL DIVISION  
**NOTICE OF ACCEPTANCE (NOA)**

**Arrow United Industries**  
**314 Riverside Drive (PO Box 69)**  
**Wyalusing, PA 18853**

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

**DESCRIPTION: Model EA-64 6" deep Aluminum Louver**

**APPROVAL DOCUMENT:** Drawing No. 1464, titled "EA-64 Louver System", sheets 1 through 15 of 15, dated 12/02/05, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E., bearing the Miami-Dade County Product Control revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Division.

**MISSILE IMPACT RATING: Large and Small Missile Impact Resistant**

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises and renews NOA # 05-1206.04 and consists of this page 1 and evidence page E-1, as well as approval document mentioned above.

The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**



*Carlos M. Utrera*  
 4/9/09

NOA No. 08-1224.03  
 Expiration Date: April 22, 2014  
 Approval Date: April 15, 2009  
 Page 1

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. Drawing No. 1464, titled "EA-64 Louver System", sheets 1 through 15 of 15, dated 12/02/05, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E.

**B. TESTS**

	<b>Test Report</b>	<b>Test Standard</b>	<b>Test Date</b>	<b>Signature</b>
1.	HTL 0198-0508-03	TAS 201,202 & 203	05/15-10/03	V.J.Abraham, P.E.
2.	HTL.0198-0618-03	TAS 201, 202 & 203	06/06-25/03	V.J.Abraham, P.E.
3.	HTL 0198-0804-03	TAS 201, 202 & 203	08/06-08/03	V.J.Abraham, P.E.
4.	HTL 0198-0508-03	TAS 201, 202 & 203	05/08-13/03	V.J.Abraham, P.E.
5.	HTL 0198-0804-03	TAS 201, 202 & 203	08/08-11/03	V.J.Abraham, P.E.
6.	HTL 0198-0324-03	TAS 201, 202 & 203	03/24-26/03	V.J.Abraham, P.E.
7.	HTL 0198-0324-03	TAS 201, 202 & 203	03/24-04/16	V.J.Abraham, P.E.
8.	HTL 0198-0324-03	TAS 201, 202 & 203	03/24-24/03	V.J.Abraham, P.E.
9.	HTL 0198-0324-03	TAS 201, 202 & 203	03/25-04/21	V.J.Abraham, P.E.
10.	HTL 0198-0128-03	TAS 201, 202 & 203	02/10-04/21	V.J.Abraham, P.E.
11.	HTL 0198-0508-03	TAS 202	05/13-13/03	V.J.Abraham, P.E.
12.	HTL 0198-0324-03	TAS 202	03/27-27/03	V.J.Abraham, P.E.
13.	HTL 0198-0324-03	TAS 201 & 203	03/24-04/21	V.J.Abraham, P.E.
14.	HTL G198-0101-05	TAS 201, 202 & 203	02/15/05	V.J.Abraham, P.E.
15.	AWV/AUI-011-02-01	TAS 100 (A)-95	05/13/08	Duc T. Nguyen, P.E.
16.	ATI 45720.03-122-18	TAS 100 (A)-95	01/16/09	J.A. Reed, P.E.

**C. CALCULATIONS**

1. Anchoring calculations prepared by W.W. Schaefer Engineering & Consulting, P.A., dated 12/17/08, signed and sealed by Warren W. Schaefer, P.E.

**D. QUALITY ASSURANCE**

1. Miami Dade Building Code Compliance Office (BCCO)

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS**

1. 2007 Florida Building Code compliance letter issued by W. W. Schaefer Engineering & Consulting, P.A., dated 04/03/09, signed and sealed by Warren W. Schaefer, P.E.
2. No financial interest letter issued by W. W. Schaefer Engineering & Consulting, P.A., dated 12/16/08, signed and sealed by Warren W. Schaefer, P.E.
3. Test code compliance letters issued by Hurricane Test Laboratory, Inc., dated 09/23/03 and 01/20/09, signed and sealed by Vinu J. Abraham, P.E.



Carlos M. Utrera, P.E.  
Product Control Examiner  
NOA No. 08-1224.03  
Expiration Date: April 22, 2014  
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**FASTENER SCHEDULE**

ANCHOR TYPE	(5) SUBSTRATE	MINIMUM EMBEDMENT	MINIMUM EDGE DIST.
(3) NO. 10 S.S. SCREW	WOOD	1 3/8"	3/4"
(6) NO. 10 SELF TAP SCREW	METAL STUD OR STEEL	FULL	3/4"
(1) 1/4" CONCRETE SCREW	C90 CONCR. BLOCK	1 1/4"	2 1/2"
(1) 1/4" CONCRETE SCREW	CONCRETE	1 1/4"	2"
(2) 1/4" BOLT	STEEL OR METAL STUD	FULL	3/4"
(4) 3/8" SLEEVE ANCHOR	CONCRETE	2 1/2"	2"
(2) 3/8" BOLT	STEEL	FULL	3/4"

- (1) CONCRETE SCREWS SHALL BE ELCO TAPCONS OR HILTI KWIK-CON II. (HARDENED STEEL OR S.S. PER AISI 1021 & 410)
- (2) BOLT SHALL BE MIN. A307 GALVANIZED OR 304 S.S. (Fv = 10,000 PSI MIN.)
- (3) WOOD SCREWS SHALL HAVE MIN. YIELD STRENGTH OF Fyb = 80,000 PSI
- (4) SLEEVE ANCHORS MAY BE GALVANIZED OR S.S. RAMSET RED HEAD DYNABOLTS OR POWERS RAWL POWER BOLT.
- (5) SEE GENERAL NOTES FOR SUBSTRATE REQUIREMENTS.
- (6) SELF TAPPING SCREWS SHALL BE CORROSION RESISTANT MIN. SAE GRADE 2 STEEL OR MIN. ALLOY GROUP 1, 2 & 3 CONDITION "A" STAINLESS STEEL.

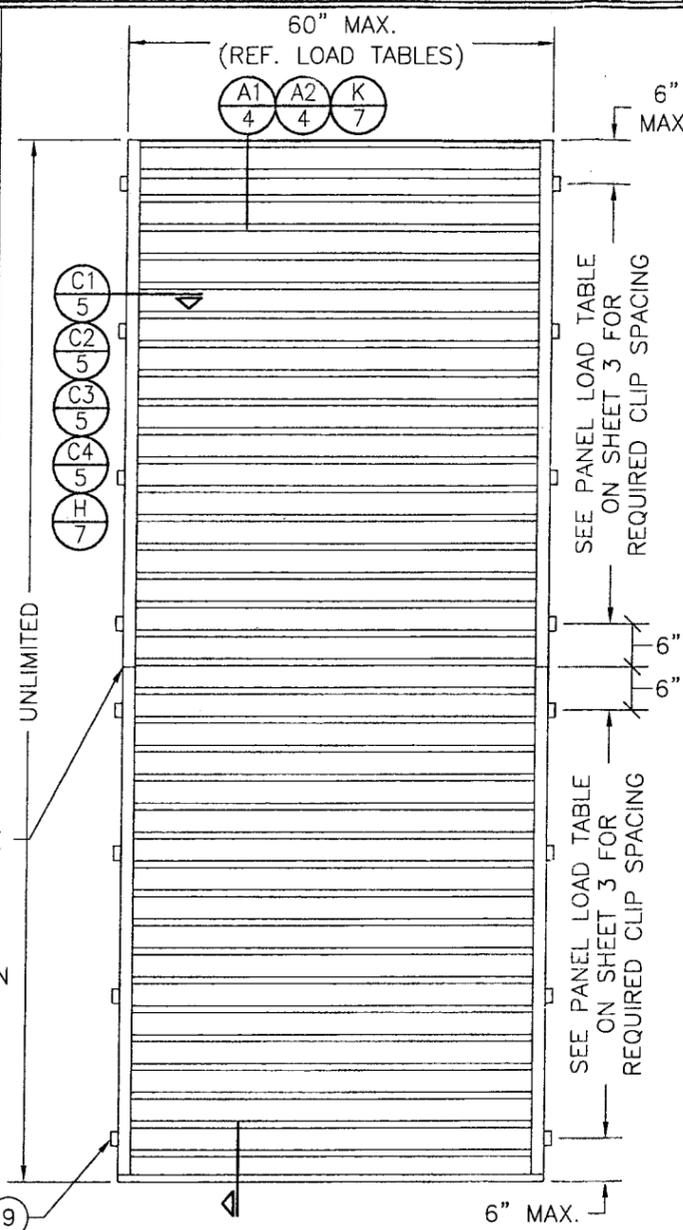
**CORNER & BLADE END CONSTRUCTION**

**BLADE TO JAMB:**  
**WELDED CONDITION:** BLADE END BUTTS TO JAMB, IS WELDED WITH ONE 1/8" X 5" WELD AND SCREWED TO JAMB WITH WITH 2 NO. 8 X 3/4" S.S. SMS SCREWS THROUGH JAMB AND INTO BLADE SCREW SPLINES.  
**SCREWED CONDITION:** BLADE END BUTTS TO JAMB & IS SCREWED TO JAMB WITH TWO (2) 1/4"-20 X 1 1/2" TYPE "F" SCREWS THROUGH JAMB AND INTO BLADE SCREW SPLINES.  
**HEAD TO JAMB:** HEAD FRAME IS SQUARE CUT, BUTTED AND JOINED TO JAMB WITH ONE 1/8" X 5" WELD AND 2 NO. 8 X 3/4" S.S. SMS SCREWS THROUGH JAMB AND INTO HEADER SCREW SPLINES.  
**SILL TO JAMB:** SIDE JAMB BUTTS TO SILL AND IS JOINED TO SILL WITH THREE(3) 1/8" X 1" WELDS AND 2 NO. 8 X 3/4" S.S. SMS SCREWS THROUGH SILL AND INTO JAMB SCREW SPLINES.

JAMB SPLICE WHEN REQUIRED FOR STACKING (SEE SECTION A1/4 FOR DETAIL). SPLICE LOCATION TO BE BETWEEN BLADES.

**GENERAL NOTES:**

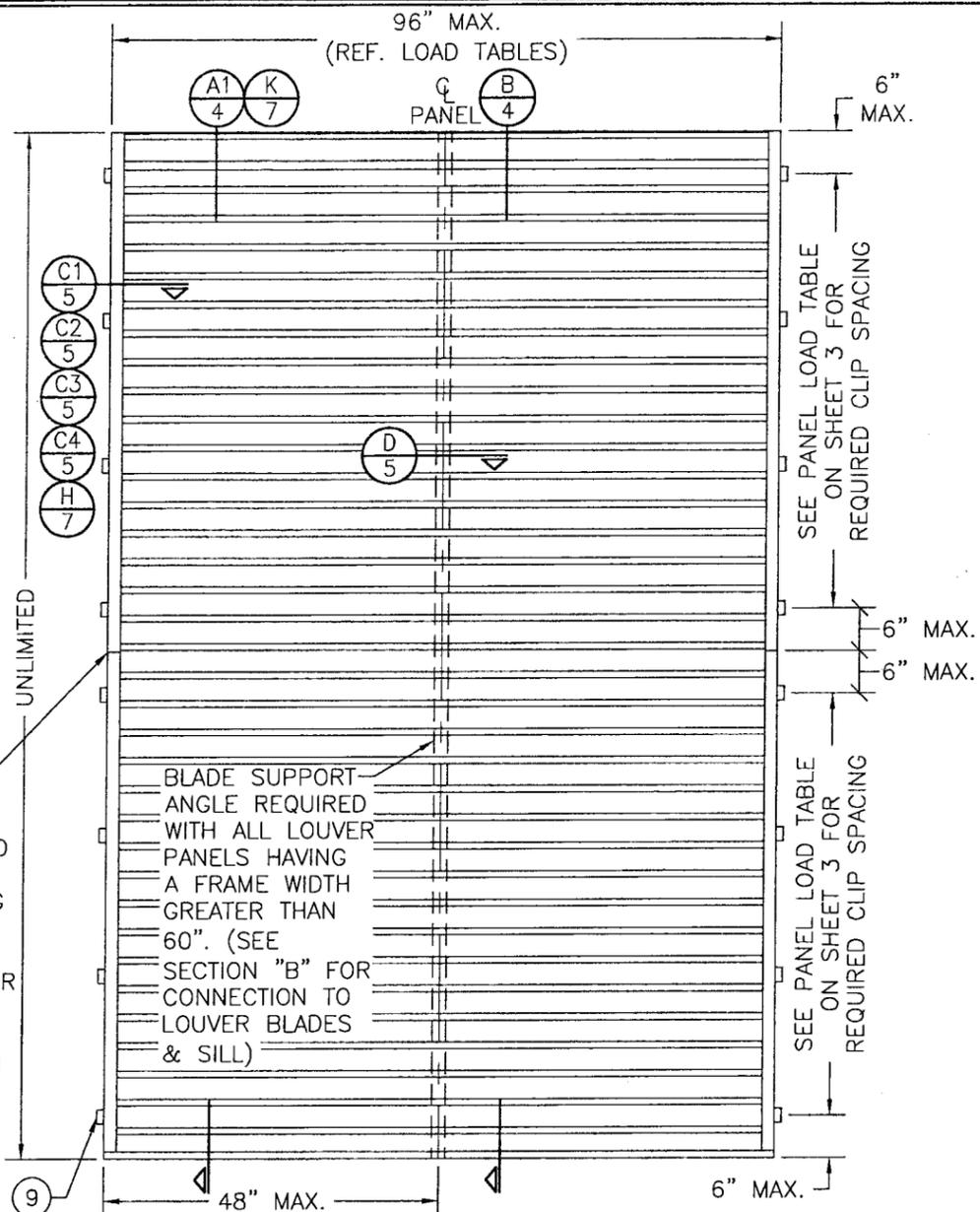
1. IT SHALL BE THE RESPONSIBILITY OF THE PERMIT HOLDER TO VERIFY THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURE TO SUPPORT THE LOADS SUPERIMPOSED BY THE LOUVERS.
2. THESE LOUVER SYSTEMS HAVE BEEN DESIGNED & TESTED IN ACCORDANCE WITH THE 2004 FLORIDA BUILDING CODE (FBC) AND PROTOCOLS TAS-100, 201, 202 & 203 INCLUDING HIGH VELOCITY HURRICANE ZONES (HVHZ).
3. EACH LOUVER ASSEMBLY SHALL BE PERMANENTLY LABELED AS FOLLOWS: ARROW UNITED INDUSTRIES WYALUSING, PA MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED
4. ALL CONCRETE SUBSTRATE SHALL BE MIN. 3000 PSI.
5. ALL WOOD SUBSTRATE SHALL BE MIN. G = 0.55 DENSITY.
6. ALL METAL STUD SUBSTRATE SHALL BE MIN. 16 GA. Fy = 33 ksi.
7. ALL STRUCTURAL STEEL SUBSTRATE SHALL BE MIN. 12 GA. Fy = 36 ksi.
8. PANEL WIDTHS & HEIGHTS ARE LIMITED AS SHOWN IN ELEVATIONS.
9. MULLED PANELS MAY BE HORIZONTALLY INSTALLED TO AN UNLIMITED NUMBER. VERTICAL STACKING OF MULLED PANELS MAY OCCUR PROVIDING A STRUCTURAL SUPPORT IS DESIGNED & INSTALLED BY OTHERS TO SUPPORT ALL LOADS TRANSFERRED FROM THE LOUVER ASSEMBLY (SINGLE PANELS MAY RUN TO UNLIMITED HEIGHT PER ELEVATION IF NO MULLION EXISTS).
10. SEPARATION OF DISSIMILAR MATERIALS MUST BE MAINTAINED PER ALL APPLICABLE CODES & SECTION 2003.8.4 OF FBC 2004.
11. THIS SYSTEM HAS BEEN TESTED FOR WATER INFILTRATION RESISTANCE AND IS A WATER RESISTANT SYSTEM WHEN THE LOUVER BLADE ENDS ARE SCREWED & WELDED AND THE DAMPER BLADE IS ATTACHED TO THE LOUVER BLADES AS SHOWN IN SECTION "A2/4" (NOT RATED FOR WATER RESISTANCE WHEN LOUVER BLADE ENDS ARE SCREW CONNECTED ONLY). THIS SYSTEM IS ALSO A WATER RESISTANT SYSTEM WHEN THE AFD-20 DAMPER IS PLACED BEHIND THE LOUVER.
12. UNLESS THE DAMPER BLADE IS ATTACHED TO THE LOUVER BLADES OR THE AFD-20 DAMPER IS PLACED BEHIND THE LOUVER, THE LOUVER IS TO BE INSTALLED IN A LOCATION WHERE THE ROOM BEHIND THE LOUVER IS DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM, AND THE ROOM WILL HOUSE WATER RESISTANT/WATER PROOF EQUIPMENT, COMPONENTS OR SUPPLIES.
13. ALL DETAILS OF SHEETS 10 THRU 15 MUST COMPLY WITH THE LOUVER DETAILS SHOWN ON SHEETS 1 THRU 9. ANY DISCREPANCY IS CONTROLLED BY THE DETAILS ON SHEETS 1 THRU 9.



**EXTERIOR ELEVATION SINGLE LOUVER PANEL WITHOUT BLADE SUPPORT ANGLE**

NOTE: LOUVER PANELS MAY BE STACKED/SPLICED VERTICALLY OR THE LOUVER PANEL MAY RUN VERTICALLY TO INFINITE HEIGHT PROVIDING OPENING IS PROPERLY DESIGNED BY OTHERS TO SUPPORT THE LOUVER PANELS.

INSTALLATION CLIPS ARE NOT APPLICABLE WHEN LOUVER IS SLEEVE MOUNTED



**EXTERIOR ELEVATION SINGLE LOUVER PANEL WITH BLADE SUPPORT ANGLE**

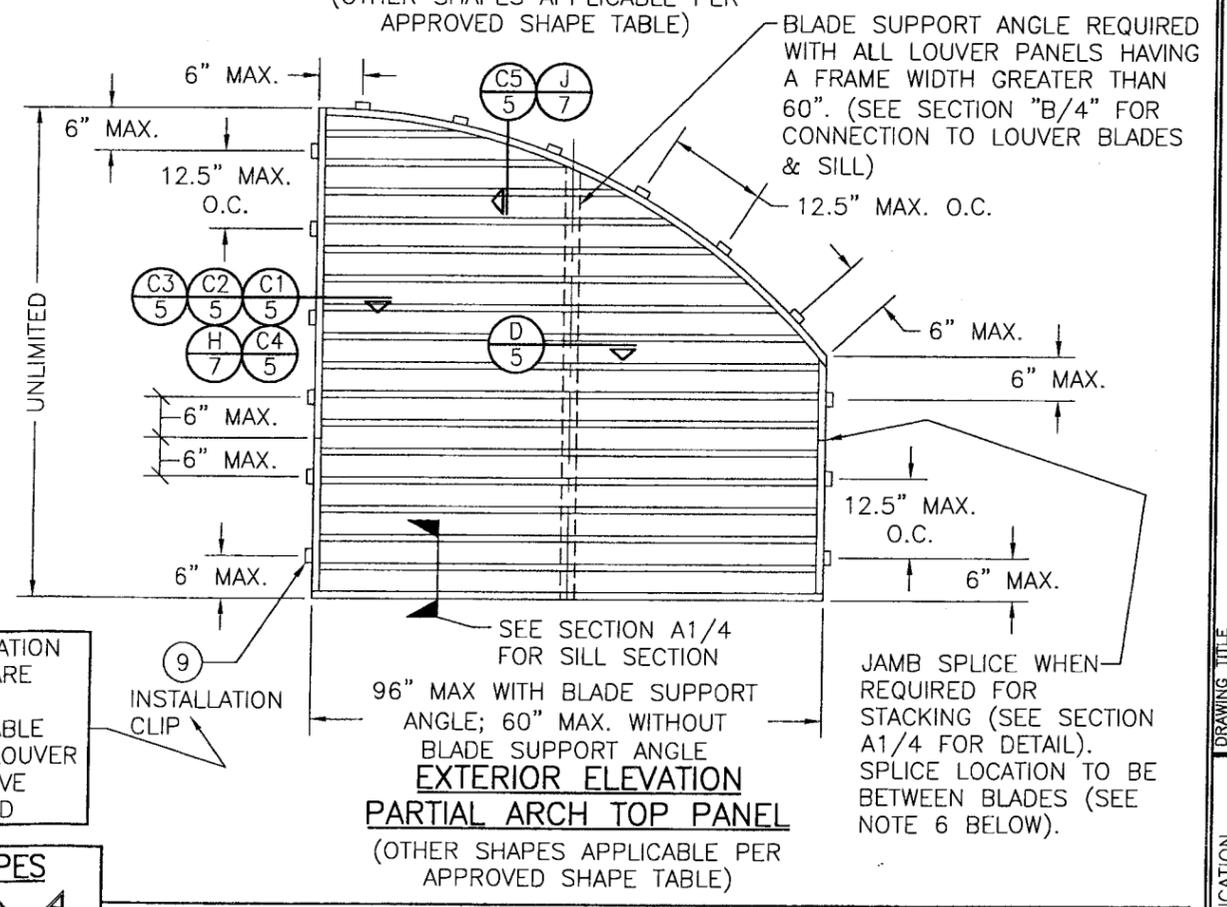
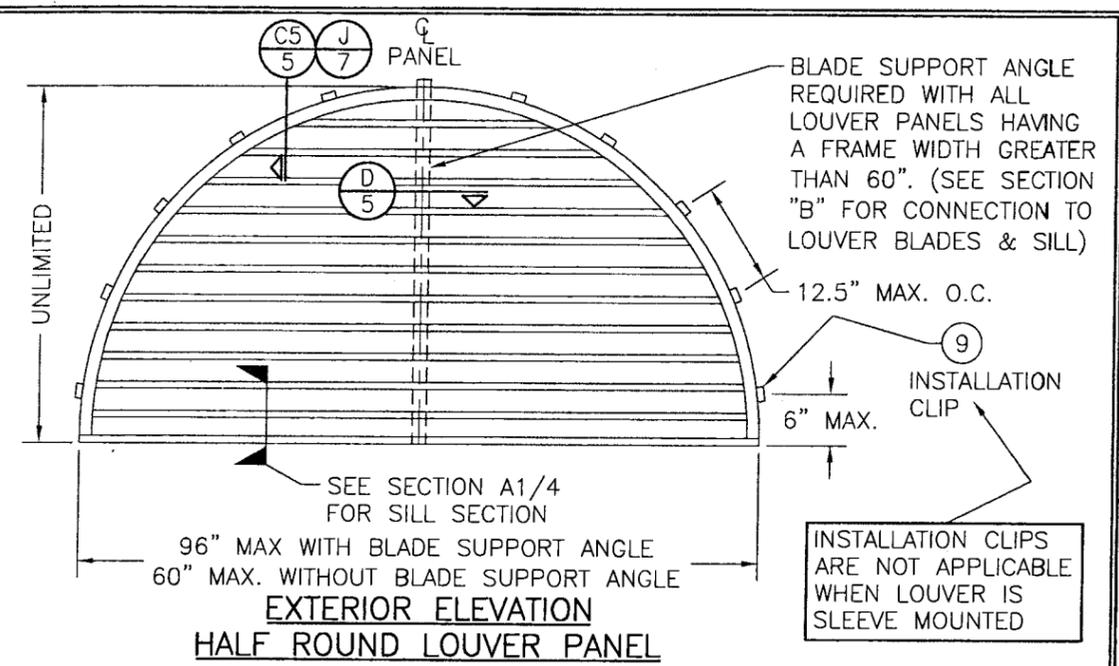
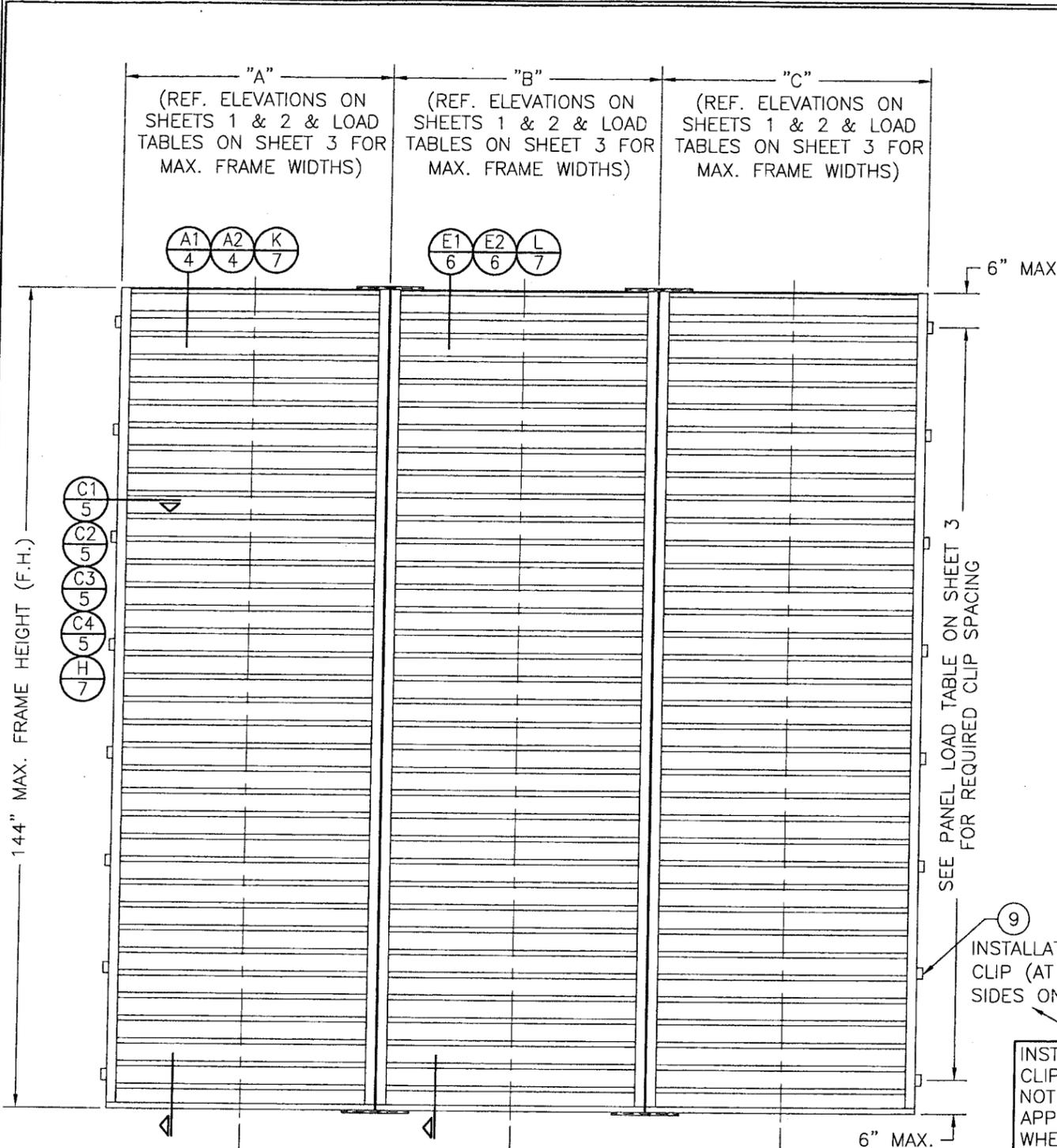
NOTE: LOUVER PANELS MAY BE STACKED/SPLICED VERTICALLY OR THE LOUVER PANEL MAY RUN VERTICALLY TO INFINITE HEIGHT PROVIDING OPENING IS PROPERLY DESIGNED BY OTHERS TO SUPPORT THE LOUVER PANELS. BLADE SUPPORT ANGLE IS CONTINUOUS FROM HEAD TO SILL AND SPLICING OF THIS ANGLE IS NOT PART OF THIS APPROVAL.

**ALLOWABLE PRESSURES**

PRESSURES VARY WITH PANEL SIZE, CLIP SPACING & MULLION CONDITIONS & SHALL BE CONTROLLED BY THE LESSER OF THE ALLOWABLE PRESSURE FOR EACH OF THOSE APPLICABLE CONDITIONS. SEE LOAD TABLES ON SHEET 3 FOR ALLOWABLE PRESSURES.

**PRODUCT REVISED**  
 as complying with the Florida Building Code  
 Acceptance No. 08-1224-03  
 Expiration Date 04/22/2014  
 By [Signature]  
 Miami Dade Product Control Division

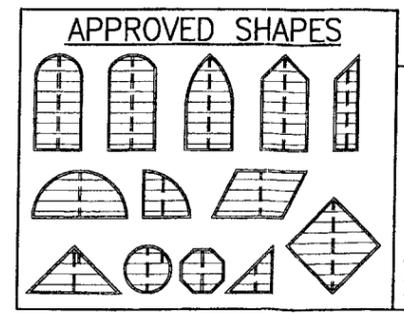
DRAWN BY: W.R.M.		CHECKED BY: W.W.S.	
PLOT: 1-24		DATE: 12/02/05	
DATE	BY	REVISION DESCRIPTION	NO.
DRAWING TITLE: <b>EA-64 LOUVER SYSTEM</b> MANUFACTURER: <b>ARROW UNITED INDUSTRIES</b> 314 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888			
CONSULTANTS: <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A.</b> 8885 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903			
CERTIFICATION <b>DEC 17 2008</b>		DRAWING NO. <b>1464</b> SHEET NO. <b>1 OF 15</b>	



**PRODUCT REVISED**  
 to comply with the Florida  
 Building Code  
 Acceptance No. 08-1224-03  
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 By [Signature]  
 Mineral Tube Product Control  
 Division

RECTANGULAR PANELS SHOWN; SHAPED PANELS MAY ALSO  
 BE MULLED PROVIDING THE MULLION END CONNECTIONS  
 ARE AS DETAILED WITH THE ABOVE RECTANGULAR ELEVATION.

**EXTERIOR ELEVATION  
 MULLED UNITS**  
 (3 PANEL UNIT SHOWN; MORE  
 THAN 3 PANELS MAY BE  
 MULLED/STACKED HORIZONTALLY)



- NOTES:**
- OTHER SHAPES MAY APPLY PROVIDING THEY ARE SIMILAR TO THOSE SHOWN & HAVE CORNER CONSTRUCTION AS DESCRIBED ON ALL SHEETS.
  - ALL SHAPED LOUVER PANELS ARE RESTRICTED TO THE SAME PANEL WIDTHS & PRESSURE AS THE RECTANGULAR LOUVER PANELS & MAY BE STACKED VERTICALLY & HORIZONTALLY THE SAME AS THE RECTANGULAR PANELS.
  - CLIP SPACING IS RESTRICTED TO 6" FROM ENDS & 12.5" MAX. O.C. FOR ALL SHAPED LOUVER PANELS.
  - WHEN BLADES EXCEED 60" IN LENGTH (UP TO 96"), BLADE SUPPORT ANGLE AND BRACKETS ARE REQUIRED AT A MAXIMUM OF 48" FROM BLADE ENDS.
  - ALL OTHER SHAPES, EXCEPT SQUARE & RECTANGULAR, MUST HAVE BLADE SUPPORT ANGLE AND BRACKETS AT CENTER OF SPAN REGARDLESS OF BLADE LENGTH.
  - SPLICES MAY NOT EXIST ON BENT OR SLOPED JAMBS. ONLY STRAIGHT VERTICAL JAMBS MAY BE SPLICED.

DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1-24	DATE: 12/02/05
NO.	REVISION DESCRIPTION
BY	DATE

**EA-64 LOUVER SYSTEM**  
 MANUFACTURER  
**ARROW UNITED INDUSTRIES**  
 314 RIVERSIDE DRIVE  
 WYALUSING, PA 18853  
 570-746-1888

CONSULTANTS  
**W. W. SCHAEFER ENGINEERING  
 & CONSULTING, P.A.**  
 8895 N. MILITARY TRAIL, SUITE C-204  
 PALM BEACH GARDENS, FL 33410  
 PHONE: 561-775-4902 FAX: 561-775-4903

DRAWING TITLE  
**EA-64 LOUVER SYSTEM**

CERTIFICATION  
**DEC 17 2008**  
 WARREN W. SCHAEFER, P.E.  
 P.E. NO. 44135

DRAWING NO. **1464**  
 SHEET NO. **2** OF **15**

MULLION LOAD TABLE (SEE INSTRUCTIONS BELOW)

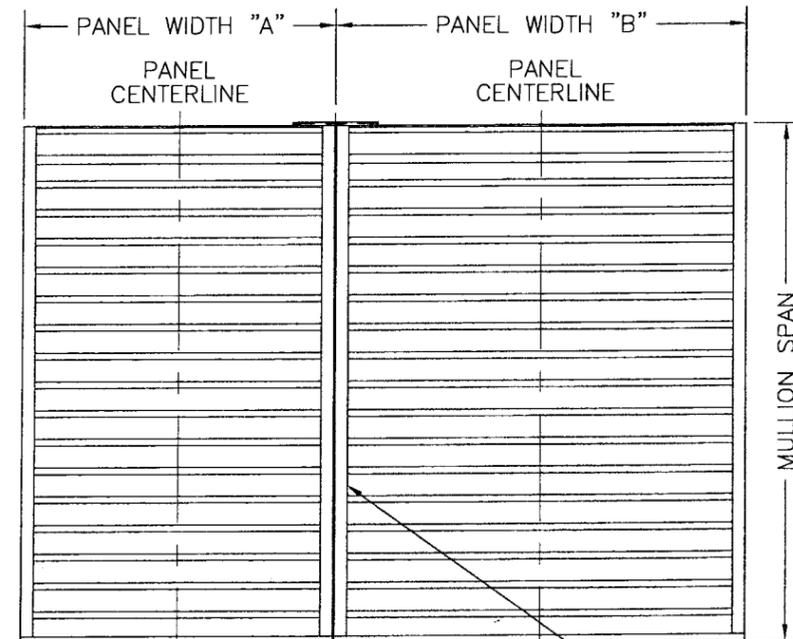
MULLION SPAN (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (+/- PSF)	MULLION SPAN (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (+/- PSF)	MULLION SPAN (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (+/- PSF)	MULLION SPAN (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (+/- PSF)	
18"	96"	180.0	60"	96"	65.7	84"	96"	47.0	120"	96"	32.9	
	24"	96"		164.3	90"		70.1	90"		50.1	90"	35.1
24"		90"		175.3	84"		75.1	84"		53.7	84"	37.6
	24"	84"		180.0	78"		80.9	78"		57.8	78"	40.4
30"		96"		131.5	72"		87.6	72"		62.6	72"	43.8
	30"	90"		140.2	66"		95.6	66"		68.3	66"	47.8
		30"		84"	150.2		60"	105.2		60"	75.1	60"
	30"			78"	161.8		54"	116.9		54"	83.5	54"
		30"		72"	175.3		48"	131.5		48"	93.9	48"
36"	66"			180.0	42"		150.2	42"		107.3	42"	75.1
	36"	96"		109.6	36"		175.3	36"		125.2	36"	87.6
		36"		90"	116.9		30"	180.0		30"	150.2	30"
	36"		84"	125.2	96"	59.8	24"	180.0	24"	131.5		
		36"	78"	134.8	90"	63.7	90"	41.1	18"	175.3		
	36"		72"	146.1	84"	68.3	90"	43.8	96"	27.2		
		36"	66"	159.3	78"	73.5	84"	47.0	90"	29.0		
	36"		60"	175.3	72"	79.7	78"	50.6	84"	31.1		
42"		54"	180.0	66"	86.9	72"	54.8	78"	33.5			
	42"	96"	93.9	60"	95.6	66"	59.8	72"	36.3			
		42"	90"	100.2	54"	106.2	60"	65.7	66"	39.6		
	42"		84"	107.3	48"	119.5	54"	73.0	60"	43.6		
		42"	78"	115.6	42"	136.6	48"	82.2	54"	48.4		
	42"		66"	136.6	36"	159.3	42"	93.9	48"	54.4		
		42"	60"	150.2	30"	180.0	36"	109.6	42"	62.2		
	42"		54"	166.9	96"	54.8	30"	131.5	36"	72.6		
		42"	48"	180.0	90"	58.4	24"	164.3	30"	87.1		
	42"		96"	82.2	84"	62.6	18"	180.0	24"	108.9		
		48"	90"	87.6	78"	67.4	96"	36.5	18"	145.2		
	48"		84"	93.9	72"	73.0	90"	39.0	72"	28.0		
48"			78"	101.1	66"	79.7	84"	41.7	66"	30.5		
	48"		72"	109.6	60"	87.6	78"	44.9	60"	33.5		
48"			66"	119.5	54"	97.4	72"	48.7	54"	37.3		
	48"		60"	131.5	48"	109.6	66"	53.1	48"	41.9		
48"			54"	146.1	42"	125.2	60"	58.4	42"	47.9		
	48"		48"	164.3	36"	146.1	54"	64.9	36"	55.9		
48"			42"	180.0	30"	175.3	48"	73.0	30"	67.1		
	48"		96"	82.2	24"	180.0	42"	83.5	24"	83.9		
48"			90"	87.6	36"	97.4	36"	97.4	18"	111.8		
	48"		84"	93.9	30"	116.9	30"	116.9				
48"		78"	101.1	24"	146.1	24"	146.1					
	48"	72"	109.6	18"	180.0	18"	180.0					

PANEL LOAD TABLE

PANEL WIDTH (IN.)	(1) CLIP SPACING (IN.)	(2) ALLOWABLE PRESSURE (+/- PSF)	PANEL WIDTH (IN.)	(1) CLIP SPACING (IN.)	(2) ALLOWABLE PRESSURE (+/- PSF)
36"	12.5"	180.0	72"	12.5"	100.0
	20"	127.3		20"	63.6
42"	12.5"	154.3	78"	12.5"	92.3
	20"	109.1		20"	58.7
48"	12.5"	120.0	84"	12.5"	85.0
	20"	95.5		20"	54.5
54"	12.5"	106.7	90"	12.5"	80.0
	20"	84.8		20"	50.9
60"	12.5"	90.0	96"	12.5"	75.0
	20"	76.4		20"	47.7
66"	12.5"	109.1			
	20"	69.4			

(1) ALL SHAPED LOUVER PANELS ARE RESTRICTED TO A FRAME CLIP SPACING OF 12.5" O.C. 20" CLIP SPACING IS ONLY ALLOWED ON RECTANGULAR & SQUARE SHAPE LOUVERS.  
 (2) PRESSURES RELATING TO 12.5" CLIP SPACING SHALL BE APPLICABLE TO ALL SLEEVE MOUNTED LOUVERS

**LOAD TABLE NOTE**  
 (APPLICABLE TO MULLION & PANEL LOAD TABLES):  
 THE LESSER LOAD FROM THE MULLION LOAD TABLE & THE PANEL LOAD TABLE SHALL CONTROL AS THE ALLOWABLE FOR THE ENTIRE MULLED UNIT.



MULLION "LOAD WIDTH" = (A + B)/2

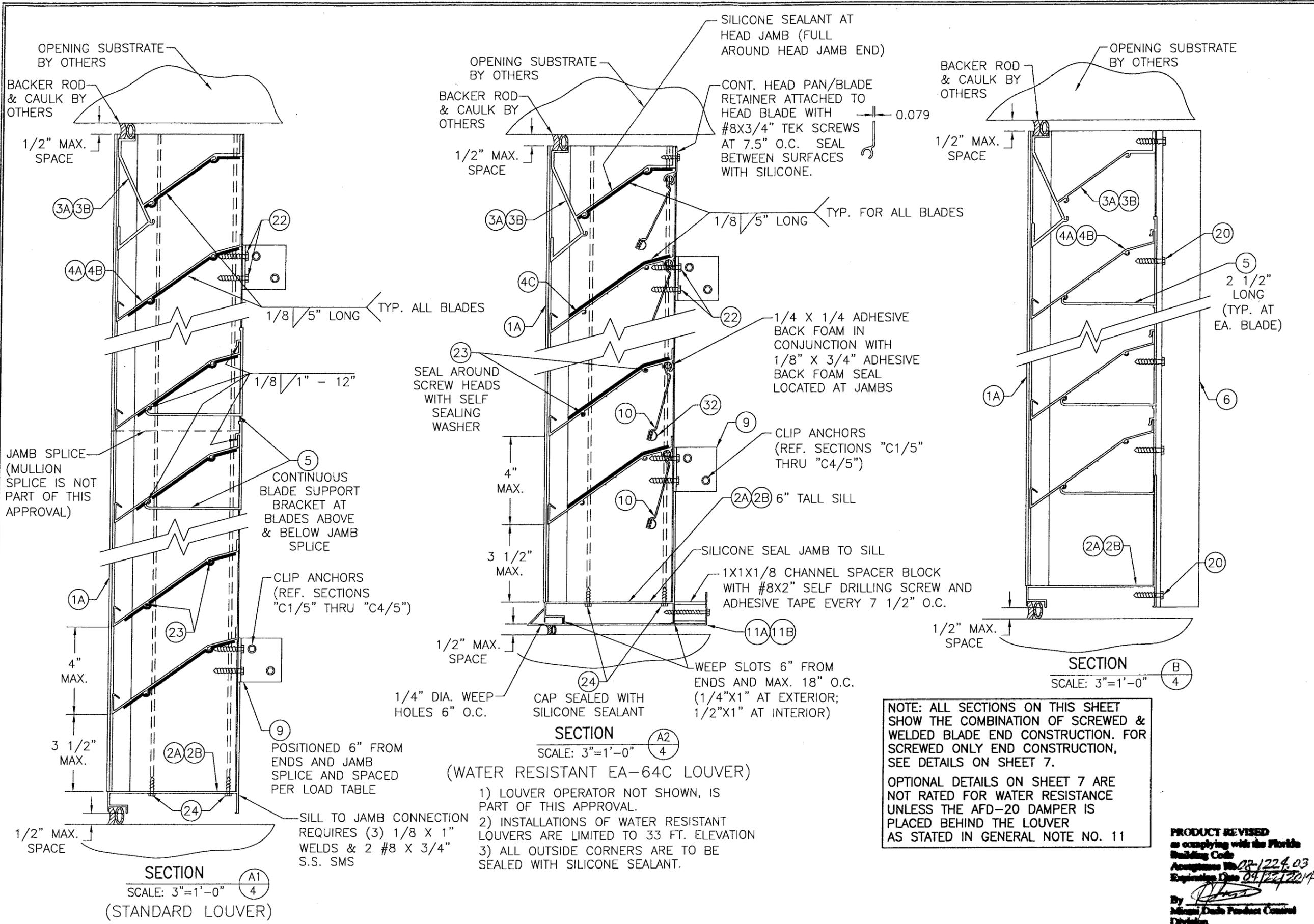
LOUVER ASSEMBLY

**MULLION LOAD TABLE INSTRUCTIONS:**

1. DETERMINE REQUIRED DESIGN PRESSURE OF THE LOUVER ASSEMBLY.
2. DETERMINE THE REQUIRED MULLION SPAN OF THE LOUVER ASSEMBLY.
3. DETERMINE THE PANEL WIDTH "A" & "B" AND THE MULLION LOAD WIDTH.
4. GO TO THE MULLION LOAD TABLE AND CHECK THE ALLOWABLE PRESSURE FOR THE RESPECTIVE MULLION SPAN/LOAD WIDTH.
5. GO TO THE PANEL LOAD TABLE AND CHECK THE ALLOWABLE PRESSURE FOR EACH PANEL WIDTH.
6. IF ALL THE ALLOWABLE PRESSURES OF INSTRUCTIONS 4 & 5 ARE GREATER THAN THE REQUIRED DESIGN PRESSURE, THE ASSEMBLY IS ACCEPTABLE.
7. IF ANY ALLOWABLE PRESSURE OF INSTRUCTIONS 4 & 5 ARE LESS THAN THE REQUIRED DESIGN PRESSURE, THE ASSEMBLY IS NOT ACCEPTABLE UNLESS THE ASSEMBLY SIZE OR PRESSURE IS REDUCED AND INSTRUCTIONS FROM 1 TO 7 ARE FOLLOWED AGAIN.

**PRODUCT REVISED**  
 in complying with the Florida Building Code  
 Acceptance No. 08-1224-03  
 Expiration Date 04/22/2014  
 By *[Signature]*  
 Miami Dade Product Control Division

DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1-24	DATE: 12/02/05
DATE	BY
REVISION DESCRIPTION	
NO.	
DRAWING TITLE <b>EA-64 LOUVER SYSTEM</b>	
MANUFACTURER <b>ARROW UNITED INDUSTRIES</b>	
CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A.</b>	
8895 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903	
CERTIFICATION <b>DEC 7 2008</b>	WARREN W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. <b>1464</b>	REV.
SHEET NO. <b>3</b>	OF <b>15</b>



**NOTE: ALL SECTIONS ON THIS SHEET SHOW THE COMBINATION OF SCREWED & WELDED BLADE END CONSTRUCTION. FOR SCREWED ONLY END CONSTRUCTION, SEE DETAILS ON SHEET 7.**

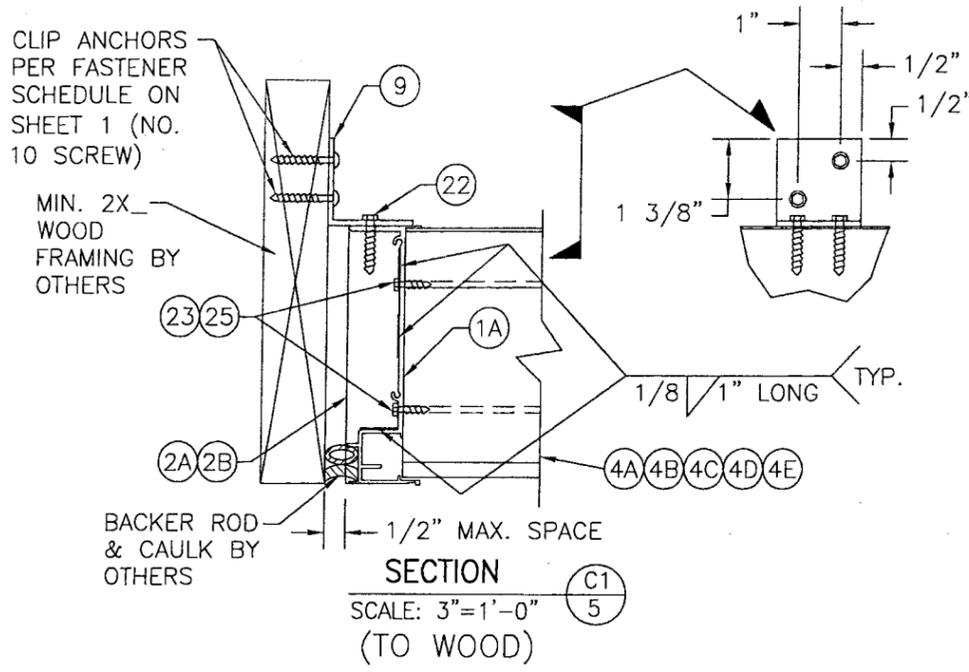
OPTIONAL DETAILS ON SHEET 7 ARE NOT RATED FOR WATER RESISTANCE UNLESS THE AFD-20 DAMPER IS PLACED BEHIND THE LOUVER AS STATED IN GENERAL NOTE NO. 11

- 1) LOUVER OPERATOR NOT SHOWN, IS PART OF THIS APPROVAL.
- 2) INSTALLATIONS OF WATER RESISTANT LOUVERS ARE LIMITED TO 33 FT. ELEVATION
- 3) ALL OUTSIDE CORNERS ARE TO BE SEALED WITH SILICONE SEALANT.

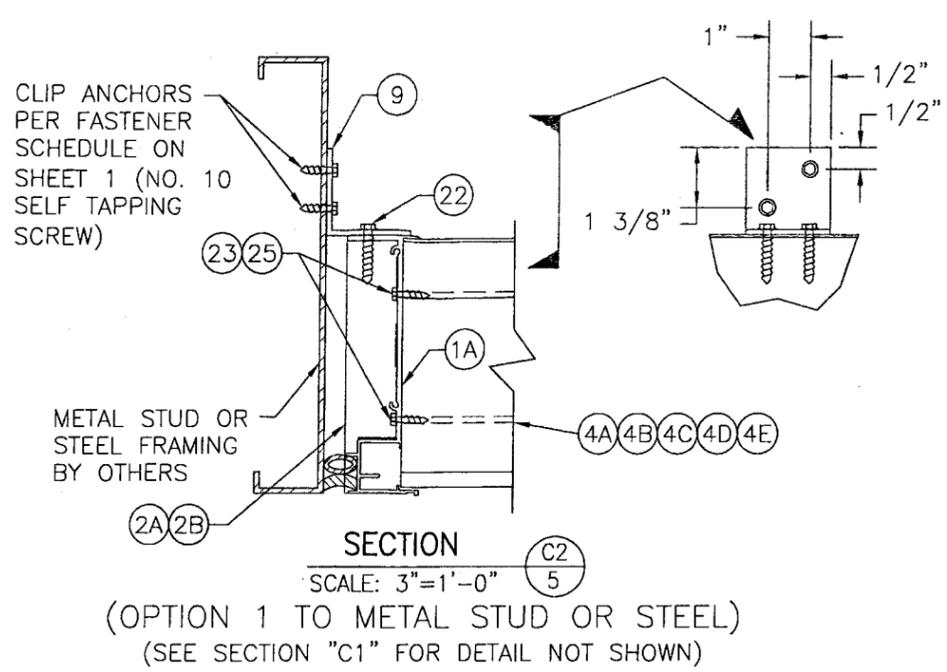
**PRODUCT REVISED**  
as complying with the Florida Building Code  
Acceptance No. 02-1224-03  
Expiration Date 04/22/2014

By *[Signature]*  
Miami Dade Product Control Division

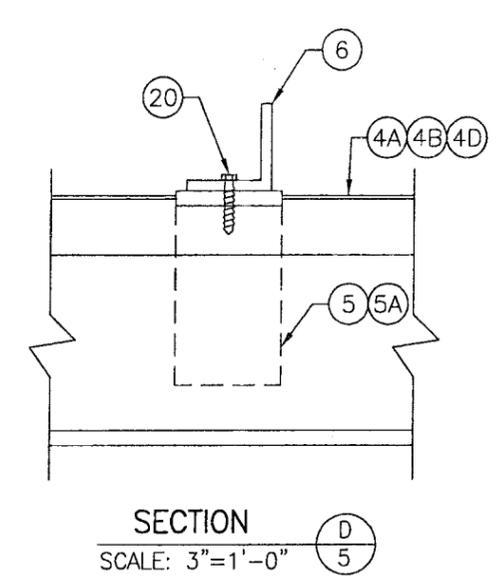
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PLOT: 1=4	DATE: 12/02/05
DATE	
BY	
REVISION DESCRIPTION	
NO.	
DRAWING TITLE <b>EA-64 LOUVER SYSTEM</b>	
MANUFACTURER <b>ARROW UNITED INDUSTRIES</b> 314 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888	
CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A.</b> 8895 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903	
CERTIFICATION <b>DEC 17 2008</b> WARREN W. SCHAEFER, P.E. P.E. NO. 44135	
DRAWING NO. <b>1464</b>	REV.
SHEET NO. <b>4 OF 15</b>	



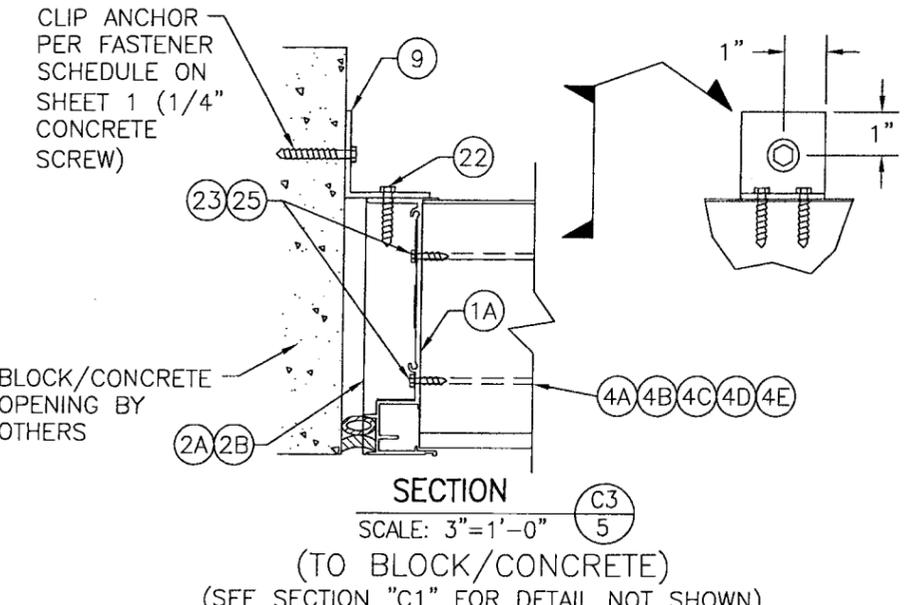
SECTION C1  
SCALE: 3"=1'-0"  
(TO WOOD)



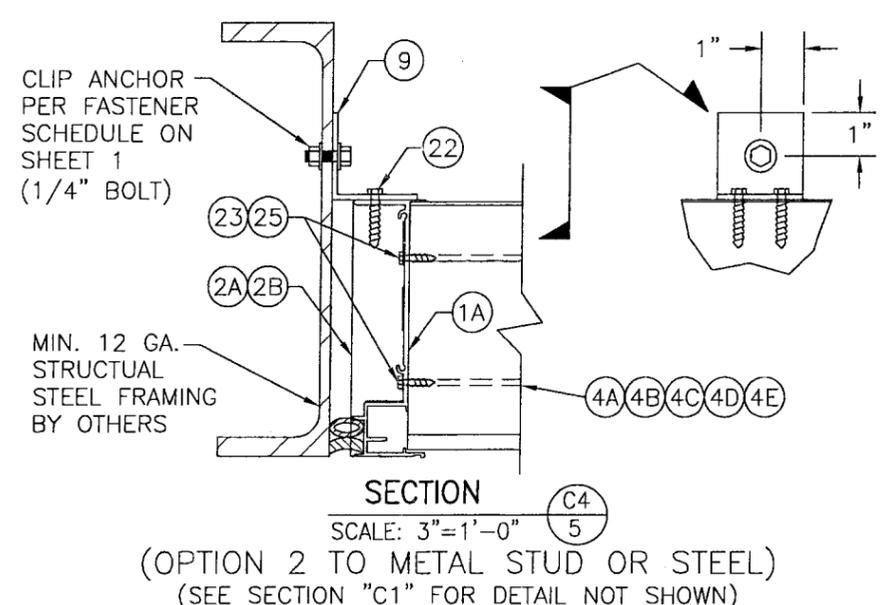
SECTION C2  
SCALE: 3"=1'-0"  
(OPTION 1 TO METAL STUD OR STEEL)  
(SEE SECTION "C1" FOR DETAIL NOT SHOWN)



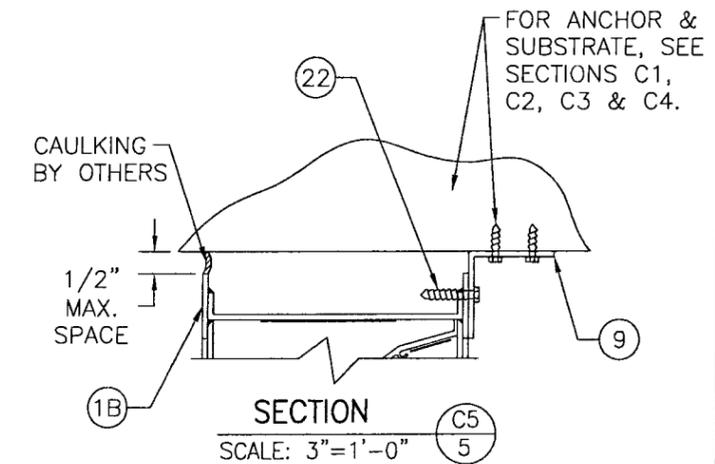
SECTION D  
SCALE: 3"=1'-0"



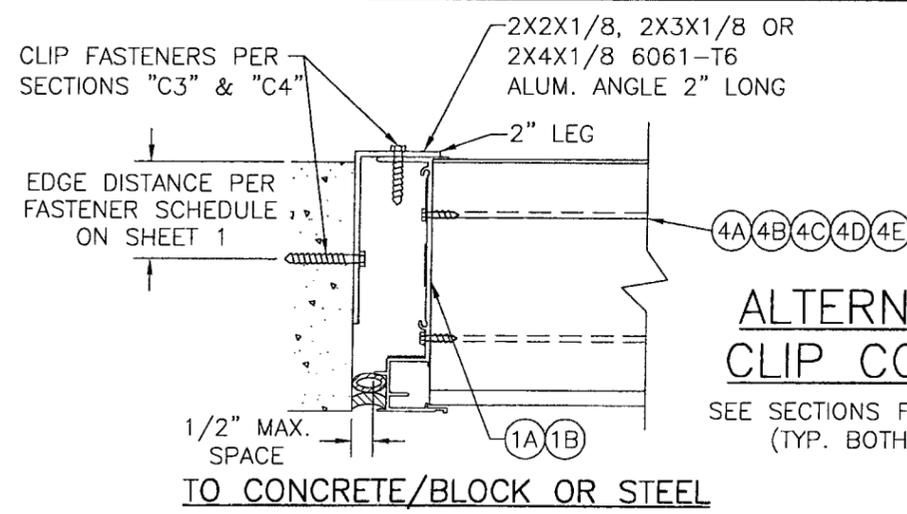
SECTION C3  
SCALE: 3"=1'-0"  
(TO BLOCK/CONCRETE)  
(SEE SECTION "C1" FOR DETAIL NOT SHOWN)



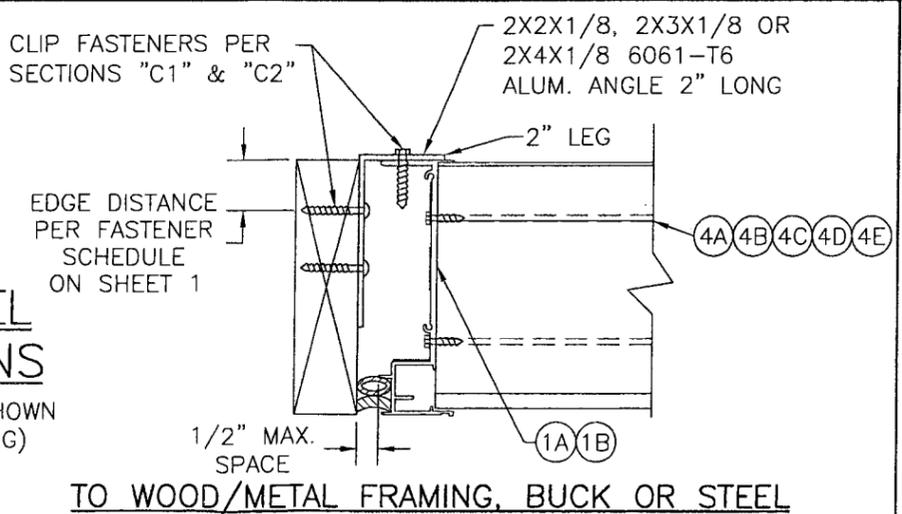
SECTION C4  
SCALE: 3"=1'-0"  
(OPTION 2 TO METAL STUD OR STEEL)  
(SEE SECTION "C1" FOR DETAIL NOT SHOWN)



SECTION C5  
SCALE: 3"=1'-0"



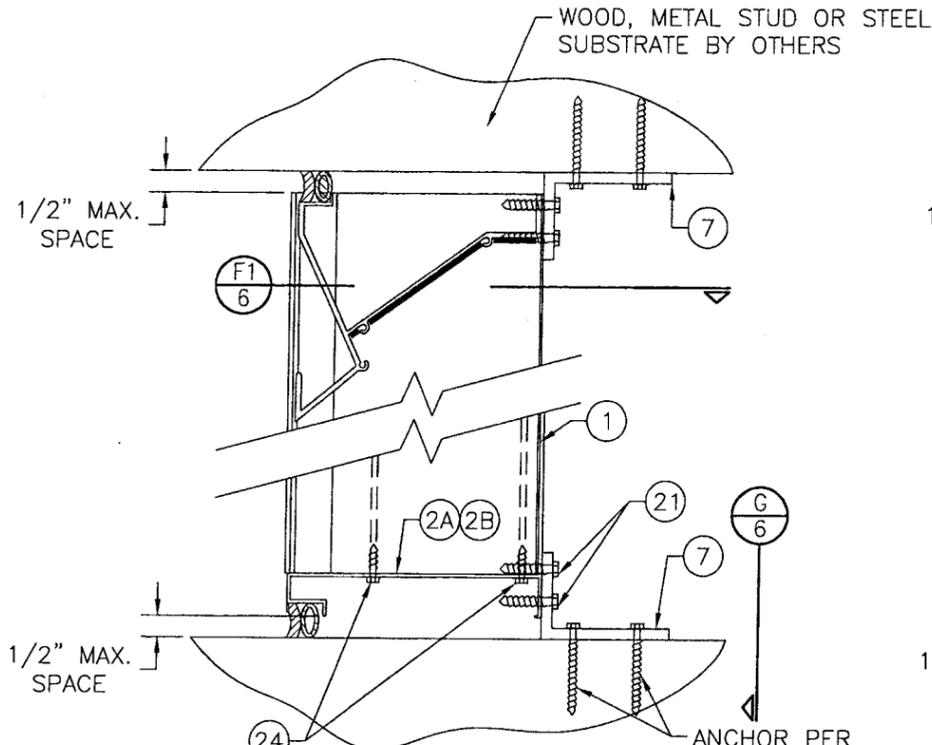
ALTERNATE PANEL CLIP CONNECTIONS  
SEE SECTIONS FOR DETAIL NOT SHOWN (TYP. BOTH SIDES OF OPENING)



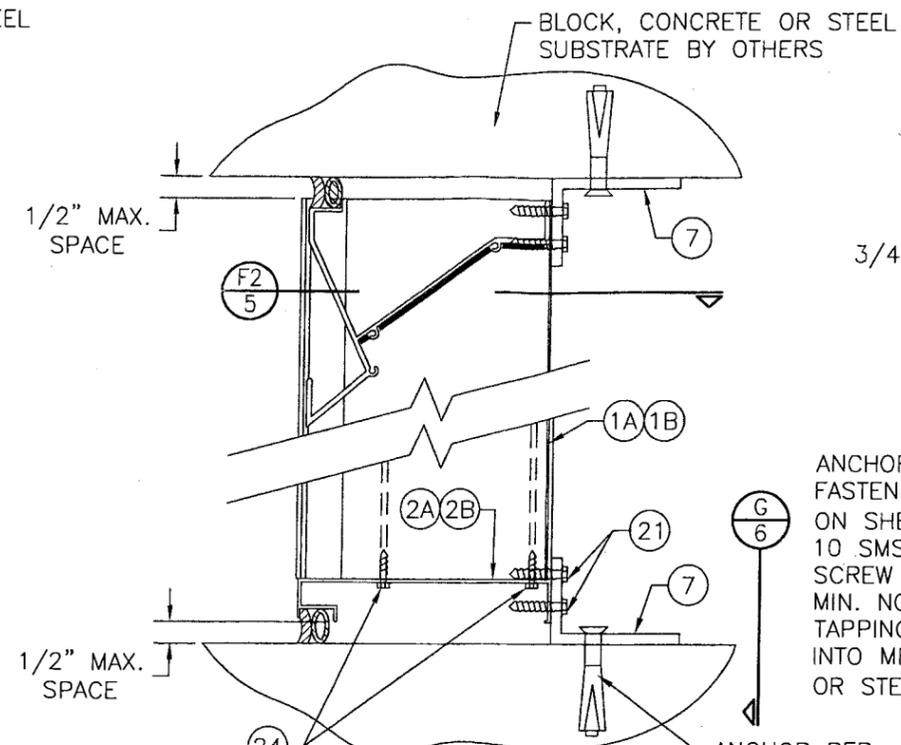
TO WOOD/METAL FRAMING, BUCK OR STEEL

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Division

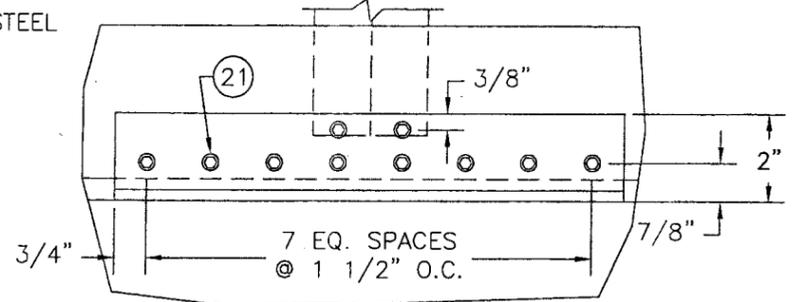
DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1=4	DATE: 12/02/05
NO.	REVISION DESCRIPTION
BY	DATE
DRAWING TITLE EA-64 LOUVER SYSTEM	
MANUFACTURER ARROW UNITED INDUSTRIES	
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.	
8885 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903	
CERTIFICATION DEC 1 2008	WARRICK W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. 1464	REV.
SHEET NO. 5 OF 15	



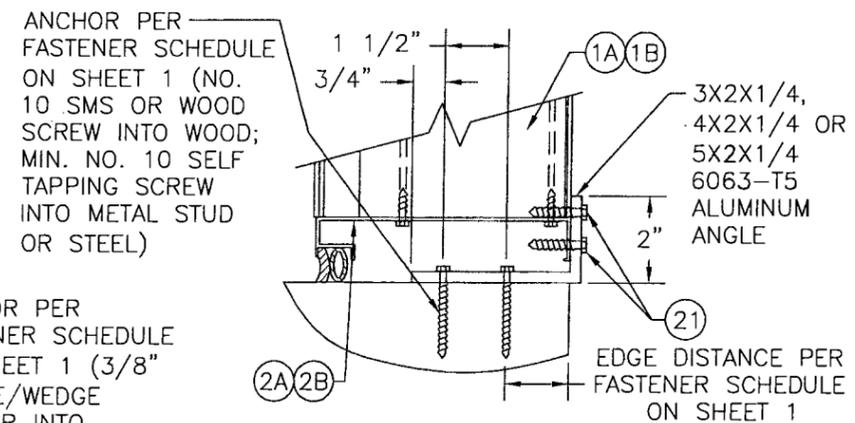
**SECTION E1**  
SCALE: 3"=1'-0"  
(INTO WOOD, METAL STUD OR STEEL OPENING)  
ANCHOR PER FASTENER SCHEDULE ON SHEET 1 (NO. 10 SMS OR WOOD SCREW INTO WOOD; MIN. NO. 10 SELF TAPPING SCREW INTO METAL STUD OR STEEL)



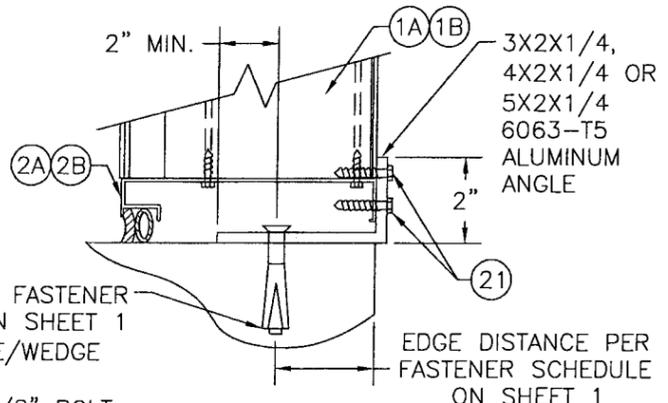
**SECTION E2**  
SCALE: 3"=1'-0"  
(INTO CONCRETE OR STRUCTURAL STEEL OPENING)  
ANCHOR PER FASTENER SCHEDULE ON SHEET 1 (3/8" SLEEVE/WEDGE ANCHOR INTO CONCRETE; 3/8" BOLT INTO STEEL)



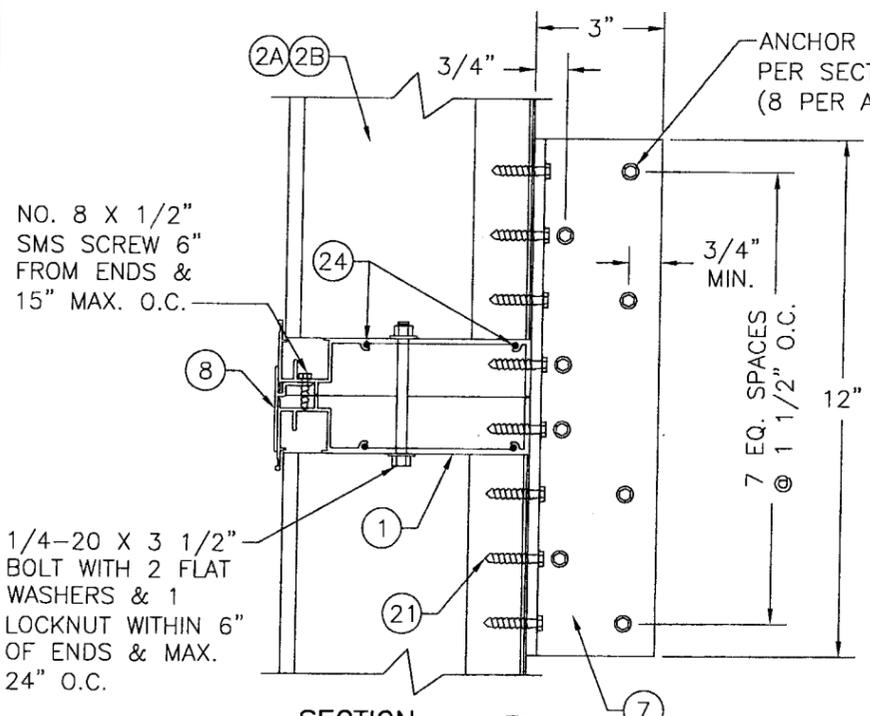
**VIEW G**  
SCALE: 3"=1'-0"  
(SEE SECTION E1/6 OR E2/6 FOR ANCHORS TO OPENING OR J/7 FOR WELDS TO SLEEVE)



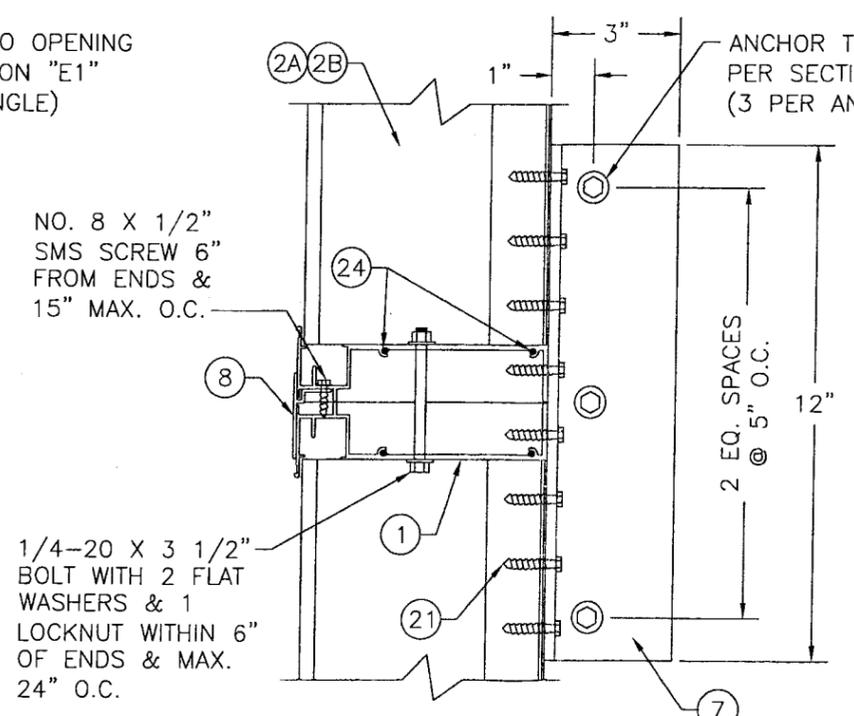
**OPTIONAL SECTION E1**  
SCALE: 3"=1'-0"  
SILL SHOWN; HEAD SIMILAR



**OPTIONAL SECTION E2**  
SCALE: 3"=1'-0"  
SILL SHOWN; HEAD SIMILAR



**SECTION F1**  
SCALE: 3"=1'-0"

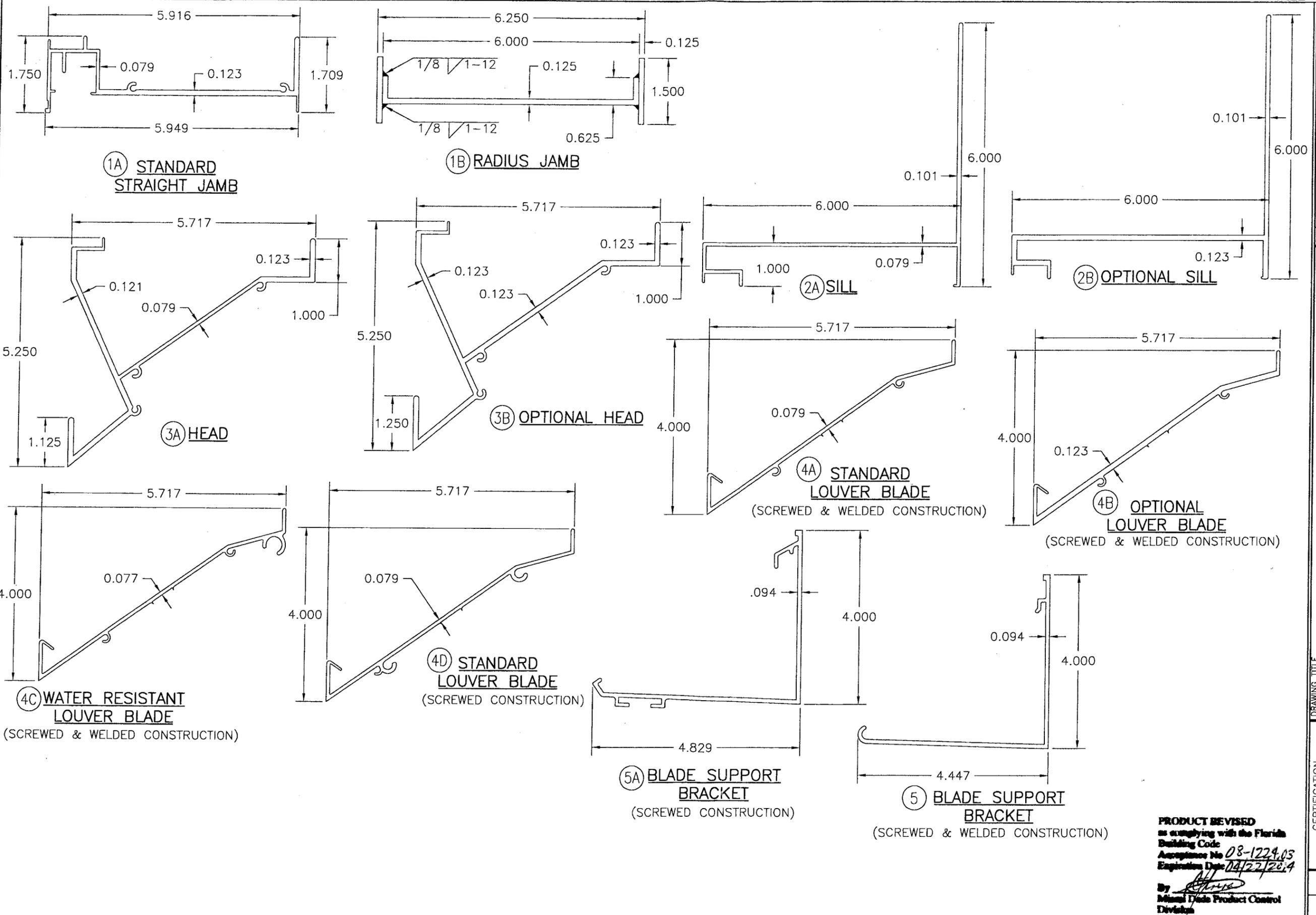


**SECTION F2**  
SCALE: 3"=1'-0"

DRAWN BY: W.R.M.	CHECKED BY: W.S.
PLOT: 1=4	DATE: 12/02/05
NO.	REVISION DESCRIPTION
BY	DATE
DRAWING TITLE <b>EA-64 LOUVER SYSTEM</b>	
MANUFACTURER <b>ARROW UNITED INDUSTRIES</b>	
CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A.</b>	
8895 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903	
CERTIFICATION <b>DEC 17 2008</b> W. W. SCHAEFER, P.E. P.E. NO. 44133	
DRAWING NO.	REV.
1464	
SHEET NO.	OF 15
6	15

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in compliance with the Florida Building Code  
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Expiration Date 04/22/2014  
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Miami Dade Product Control Division



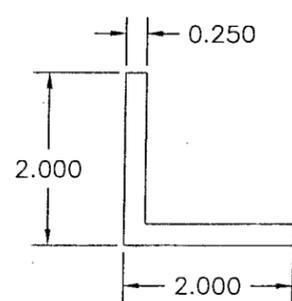


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PLOT: 1=2		DATE: 12/02/05	
NO.	REVISION DESCRIPTION	BY	DATE
DRAWING TITLE <b>EA-64 LOUVER SYSTEM</b>			
CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A.</b>			
MANUFACTURER <b>ARROW UNITED INDUSTRIES</b>			
8895 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903			
314 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888			
CERTIFICATION DEC 17 2008	By <i>[Signature]</i> WARREN W. SCHAEFER, P.E. P.E. NO. 44135		
DRAWING NO. 1464	REV.	SHEET NO. 8 OF 15	

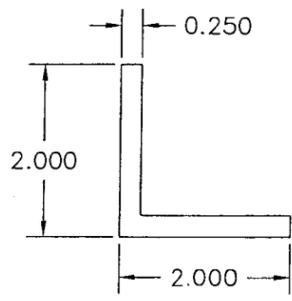
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 as complying with the Florida  
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 By *[Signature]*  
 Miami Dade Product Control  
 Division

ITEM #	ITEM DESCRIPTION	MANUFACTURER/NOTES
<b>PARTS</b>		
1A	STANDARD STRAIGHT JAMB	6063-T6 ALUMINUM
1B	RADIUS JAMB	5052-H32 ALUMINUM
2A	SILL	6063-T6 ALUMINUM
2B	OPTIONAL SILL	6063-T5 ALUMINUM
3A	HEAD	6063-T5 ALUMINUM
3B	OPTIONAL HEAD	6063-T5 ALUMINUM
4A	STANDARD LOUVER BLADE (SCREWED & WELDED ENDS)	6063-T5 ALUMINUM
4B	OPTIONAL LOUVER BLADE (SCREWED & WELDED ENDS)	6063-T5 ALUMINUM
4C	(1) WATER RESISTANT LOUVER BLADE (SCREWED & WELDED ENDS)	6063-T5 ALUMINUM
4D	SCREWED END LOUVER BLADE	6063-T5 ALUMINUM
5A	BLADE SUPPORT BRACKET	6063-T5 ALUMINUM (USED WITH BLADE 4D)
5	BLADE SUPPORT BRACKET	6063-T5 ALUMINUM (USED WITH BLADES 4A, 4B & 4C)
6	BLADE SUPPORT ANGLE	6063-T5 ALUMINUM
7	MULLION END SUPPORT ANGLE	6061-T6 ALUMINUM
8	MULLION COVER	6063-T6 ALUMINUM
9	SIDE JAMB CLIP ANGLE	6061-T6 ALUMINUM
10	DAMPER BLADE	6063-T5 ALUMINUM (USED WITH PART 4B)
11A	STANDARD SILL PAN	16 GA. 5052-H32 ALUMINUM
11B	OPTIONAL SILL PAN	16 GA. 5052-H32 ALUMINUM
12	MOUNTING SLEEVE	5052-H32 ALUMINUM
13	CONTINUOUS MOUNTING ANGLE	6063-T5 ALUMINUM
14	MULLION END SUPPORT ANGLE	6063-T5 ALUMINUM
15	CONTINUOUS MOUNTING ANGLE	6063-T5 ALUMINUM
<b>FASTENERS</b>		
20	1/4-14 X 1 1/4" SELF DRILLING SCREW	1 THROUGH SUPPORT ANGLE AT EACH SUPPORT BRACKET AND AT HEAD & SILL
21	1/4-14 X 1 1/4" HILTI TEK SCREW	10 PER MULLION SUPPORT ANGLE INTO FRAME
22	1/4-14 X 1 1/4" HILTI TEK SCREW	2 PER EACH CLIP ANGLE INTO JAMB
23	NO. 8 X 3/4" S.S. SMS	2 THROUGH JAMB INTO EACH LOUVER BLADE
24	NO. 8 X 3/4" S.S. SMS	2 THROUGH SILL INTO EACH SIDE & MULLION JAMB
25	1/4-14 X 1 1/2" SELF DRILLING SCREW	2 THROUGH JAMB INTO EACH LOUVER BLADE
26	1/4-14 X 1 1/4" SELF DRILLING SCREW	WITHIN 3" OF ENDS & MAX. 6" O.C.
27	1/4-14 X 1 1/4" SELF DRILLING SCREW	8 PER MULLION END SUPPORT ANGLE
28	1/4-14 X 1 1/4" SELF DRILLING SCREW	WITHIN 6" OF CORNERS & MAX. 12 1/2" O.C.
<b>SEALS &amp; SEALANTS</b>		
32	BULB SEAL	MCL 743091

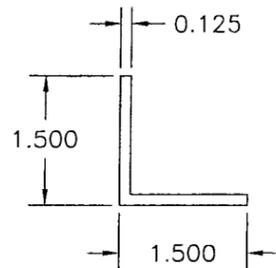
(1) PARTS 4C & 10 SHALL BE USED IN PLACE OF PART 4A OR 4B WHEN LOUVER IS REQUIRED TO RESIST WATER PENETRATION.



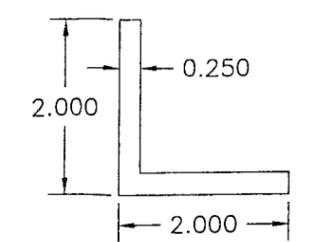
13 CONTINUOUS MOUNTING ANGLE



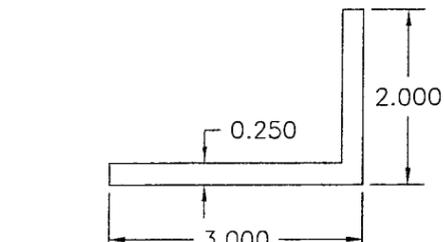
14 MULLION END SUPPORT ANGLE  
LENGTH = 12"



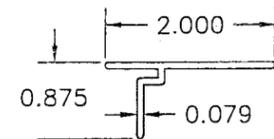
15 CONTINUOUS MOUNTING ANGLE



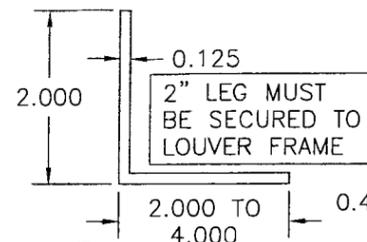
6 BLADE SUPPORT ANGLE  
LENGTH = LOUVER HEIGHT



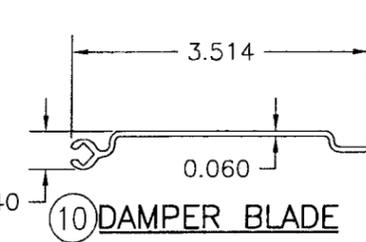
7 MULLION SUPPORT ANGLE  
LENGTH = 12"



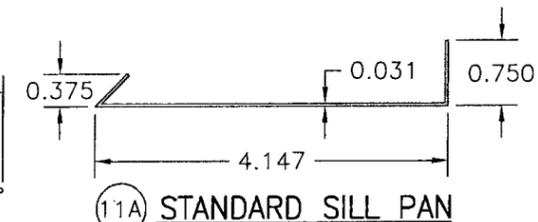
8 MULLION COVER



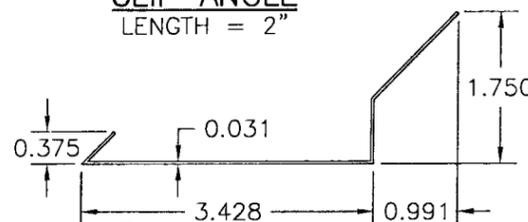
9 SIDE JAMB CLIP ANGLE  
LENGTH = 2"



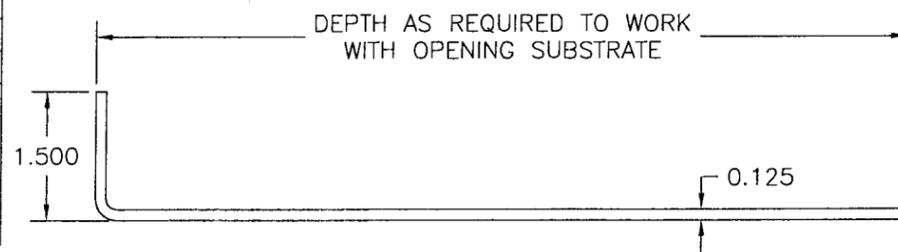
10 DAMPER BLADE



11A STANDARD SILL PAN



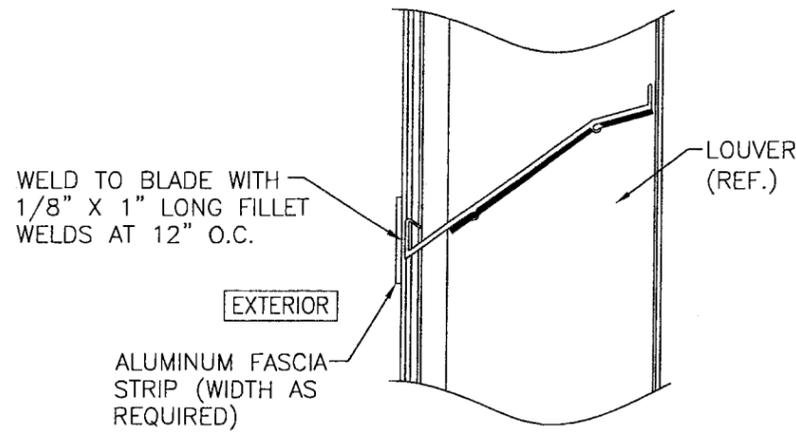
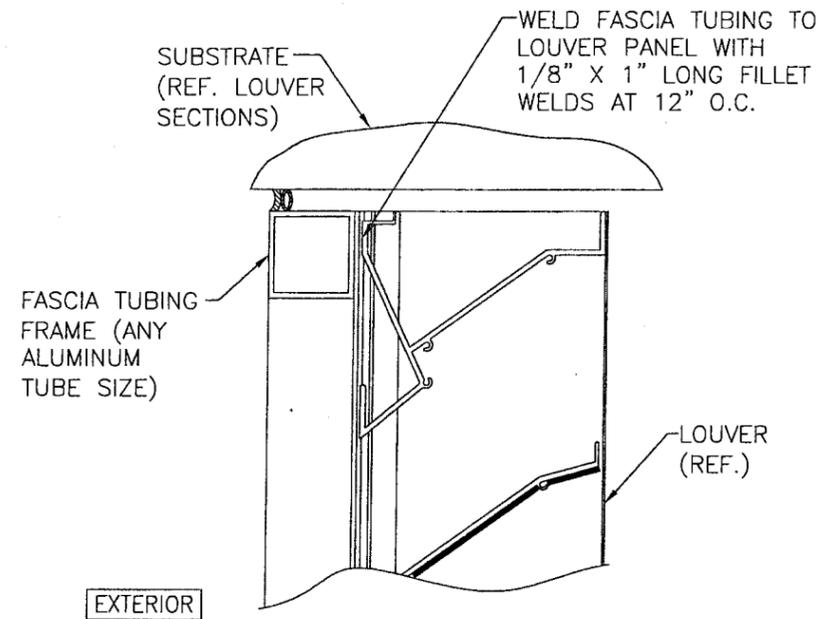
11B OPTIONAL SILL PAN



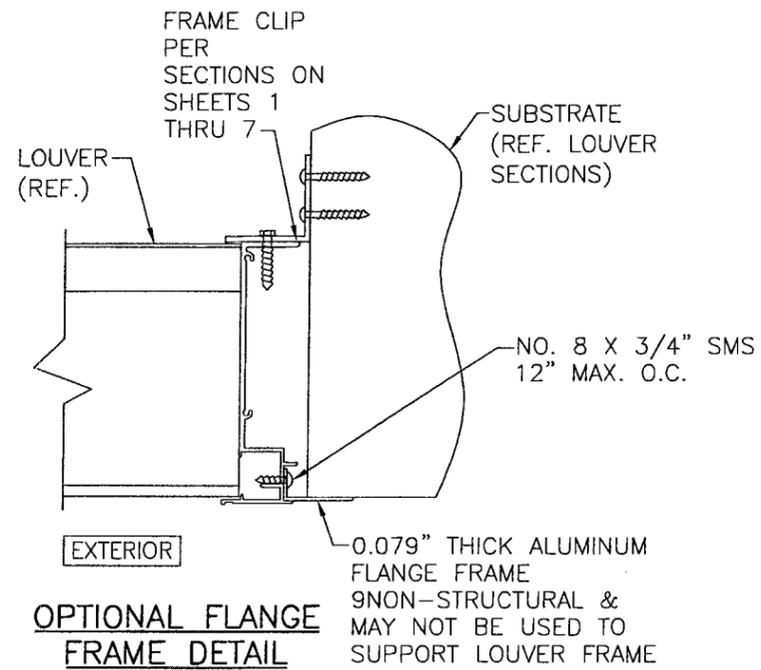
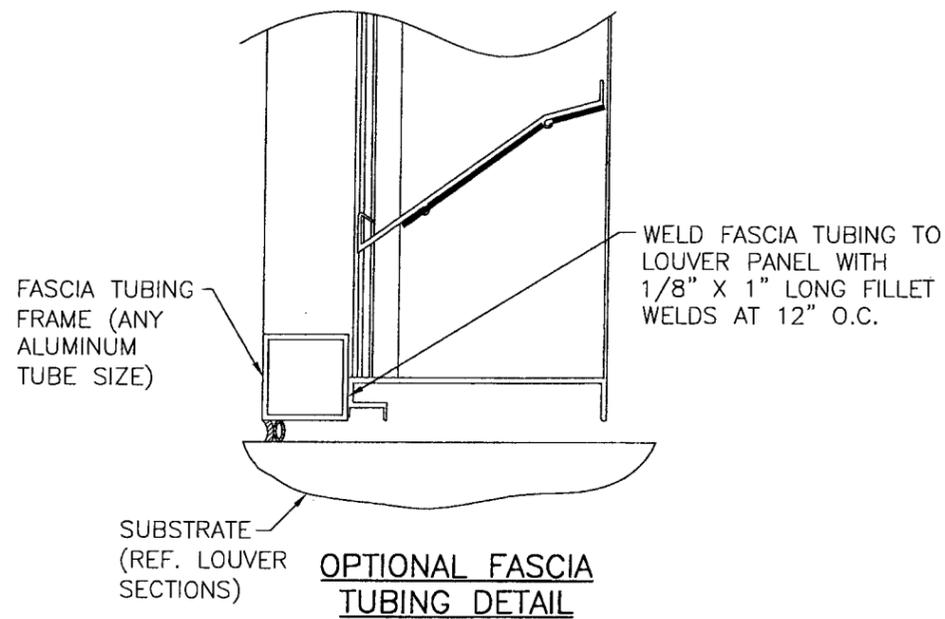
12 MOUNTING SLEEVE  
(CONTINUOUS AT ALL SIDES; WELDED AT CORNERS)

PRODUCT REVISED  
as complying with the Florida  
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PLOT: 1=2	DATE: 12/02/05
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DRAWING TITLE <b>EA-64 LOUVER SYSTEM</b>	
MANUFACTURER <b>ARROW UNITED INDUSTRIES</b> 314 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888	
CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A.</b> 8805 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903	
CERTIFICATION <b>DEC 17 2008</b>	WARREN W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. <b>1464</b>	REV.
SHEET NO. <b>9</b>	OF <b>15</b>



OPTIONAL FASCIA STRIP DETAIL

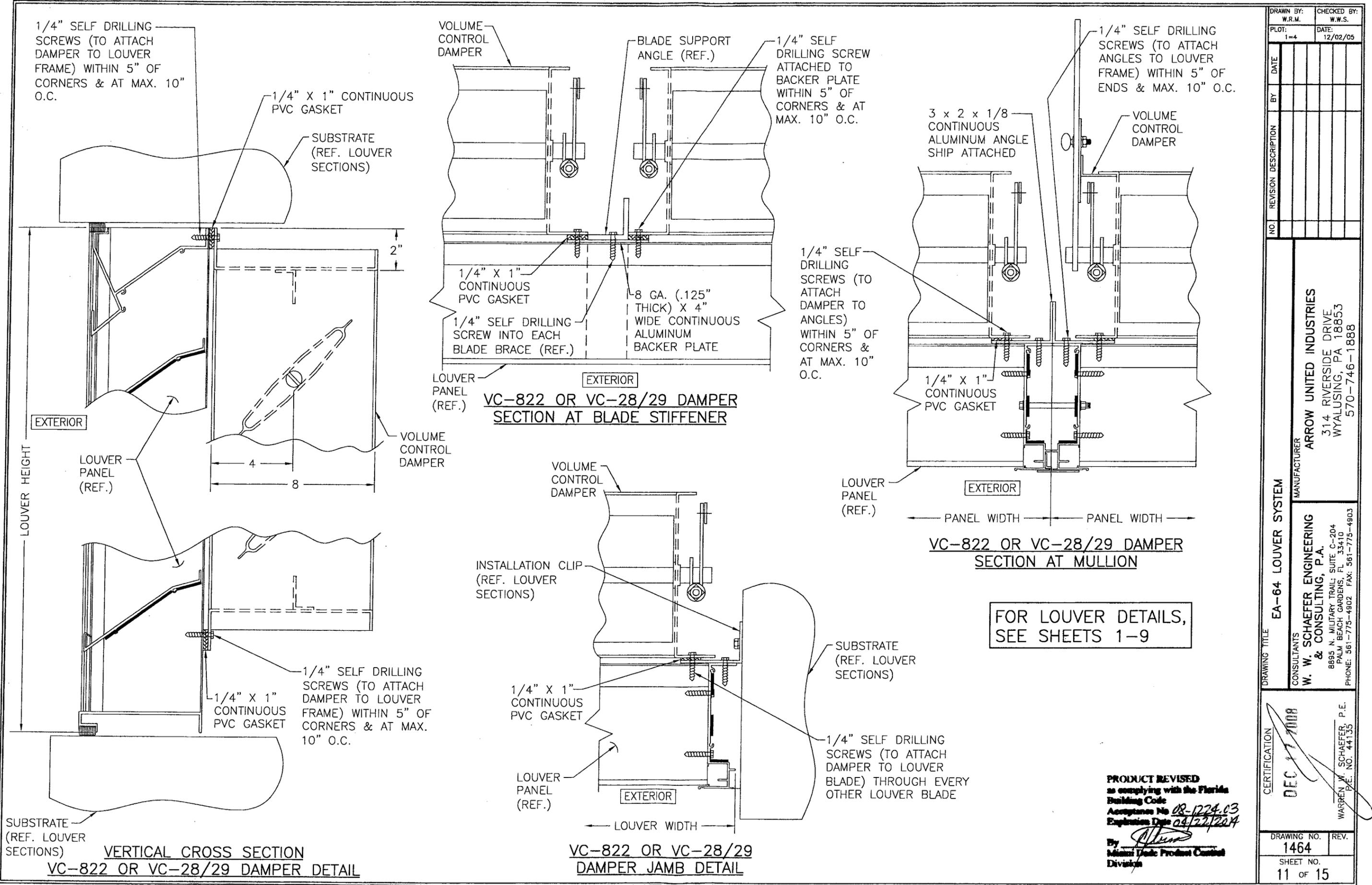


FOR LOUVER DETAILS, SEE SHEETS 1-9

DRAWN BY: W.R.M.		CHECKED BY: W.W.S.	
PLOT: 1=4		DATE: 12/02/05	
NO.	REVISION DESCRIPTION	BY	DATE
DRAWING TITLE: EA-64 LOUVER SYSTEM			
CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.		MANUFACTURER: ARROW UNITED INDUSTRIES	
8895 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903		314 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888	
CERTIFICATION: DEC 17 2008		WARREN W. SCHAEFER, P.E. P.E. NO. 44135	
DRAWING NO. 1464		REV.	
SHEET NO. 10		OF 15	

PRODUCT REVISED  
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 Expiration Date 08/12/2014

By: *[Signature]*  
 Miami Code Product Control  
 Division



1/4" SELF DRILLING SCREWS (TO ATTACH DAMPER TO LOUVER FRAME) WITHIN 5" OF CORNERS & AT MAX. 10" O.C.

1/4" X 1" CONTINUOUS PVC GASKET

SUBSTRATE (REF. LOUVER SECTIONS)

VOLUME CONTROL DAMPER

BLADE SUPPORT ANGLE (REF.)

1/4" SELF DRILLING SCREW ATTACHED TO BACKER PLATE WITHIN 5" OF CORNERS & AT MAX. 10" O.C.

1/4" SELF DRILLING SCREWS (TO ATTACH ANGLES TO LOUVER FRAME) WITHIN 5" OF ENDS & MAX. 10" O.C.

VOLUME CONTROL DAMPER

3 x 2 x 1/8 CONTINUOUS ALUMINUM ANGLE SHIP ATTACHED

1/4" X 1" CONTINUOUS PVC GASKET

1/8 GA. (.125" THICK) X 4" WIDE CONTINUOUS ALUMINUM BACKER PLATE

1/4" SELF DRILLING SCREW INTO EACH BLADE BRACE (REF.)

1/4" SELF DRILLING SCREWS (TO ATTACH DAMPER TO ANGLES) WITHIN 5" OF CORNERS & AT MAX. 10" O.C.

1/4" X 1" CONTINUOUS PVC GASKET

LOUVER PANEL (REF.)

**VC-822 OR VC-28/29 DAMPER SECTION AT BLADE STIFFENER**

EXTERIOR

LOUVER PANEL (REF.)

PANEL WIDTH

**VC-822 OR VC-28/29 DAMPER SECTION AT MULLION**

FOR LOUVER DETAILS, SEE SHEETS 1-9

VOLUME CONTROL DAMPER

INSTALLATION CLIP (REF. LOUVER SECTIONS)

SUBSTRATE (REF. LOUVER SECTIONS)

1/4" X 1" CONTINUOUS PVC GASKET

1/4" SELF DRILLING SCREWS (TO ATTACH DAMPER TO LOUVER BLADE) THROUGH EVERY OTHER LOUVER BLADE

LOUVER PANEL (REF.)

EXTERIOR

LOUVER WIDTH

**VC-822 OR VC-28/29 DAMPER JAMB DETAIL**

SUBSTRATE (REF. LOUVER SECTIONS)

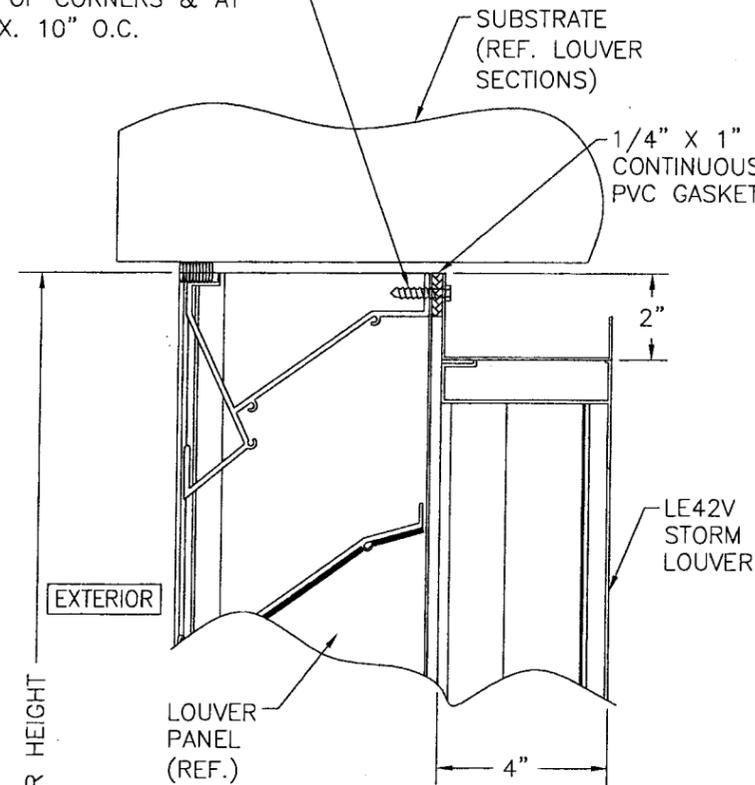
**VERTICAL CROSS SECTION**

**VC-822 OR VC-28/29 DAMPER DETAIL**

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DRAWING TITLE <b>EA-64 LOUVER SYSTEM</b>						
CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A.</b> 8895 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903						
MANUFACTURER <b>ARROW UNITED INDUSTRIES</b> 314 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888						
CERTIFICATION	DEC 17 2008		WARREN W. SCHAEFER, P.E. P.E. NO. 44135			
DRAWING NO.	1464	REV.				
SHEET NO.	11 OF 15					

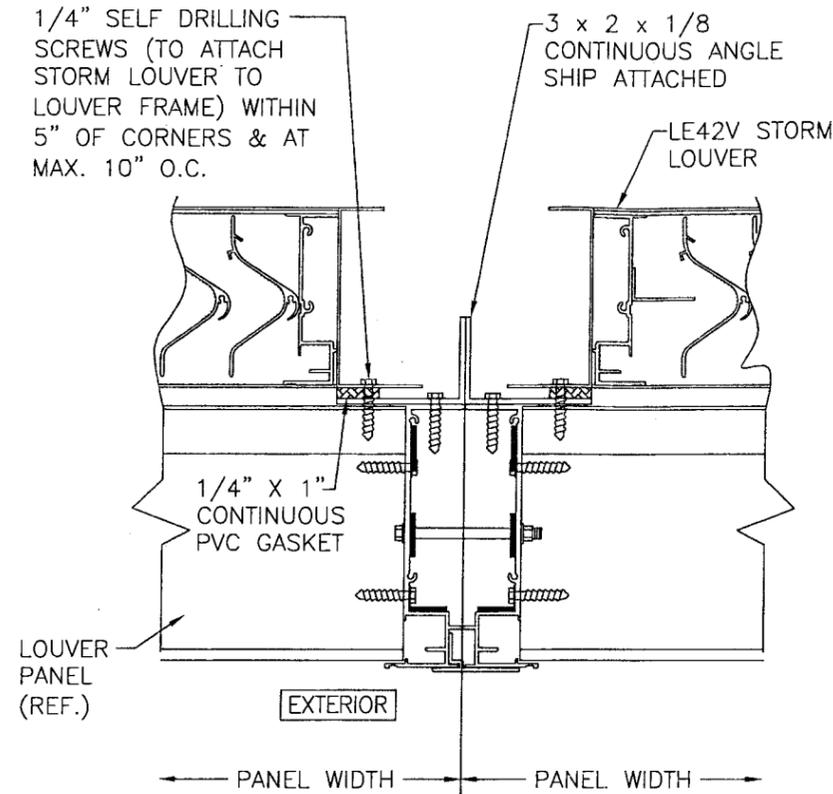
**PRODUCT REVISED**  
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Miami Dade Product Control Division

1/4" SELF DRILLING SCREWS (TO ATTACH STORM LOUVER TO LOUVER FRAME) WITHIN 5" OF CORNERS & AT MAX. 10" O.C.



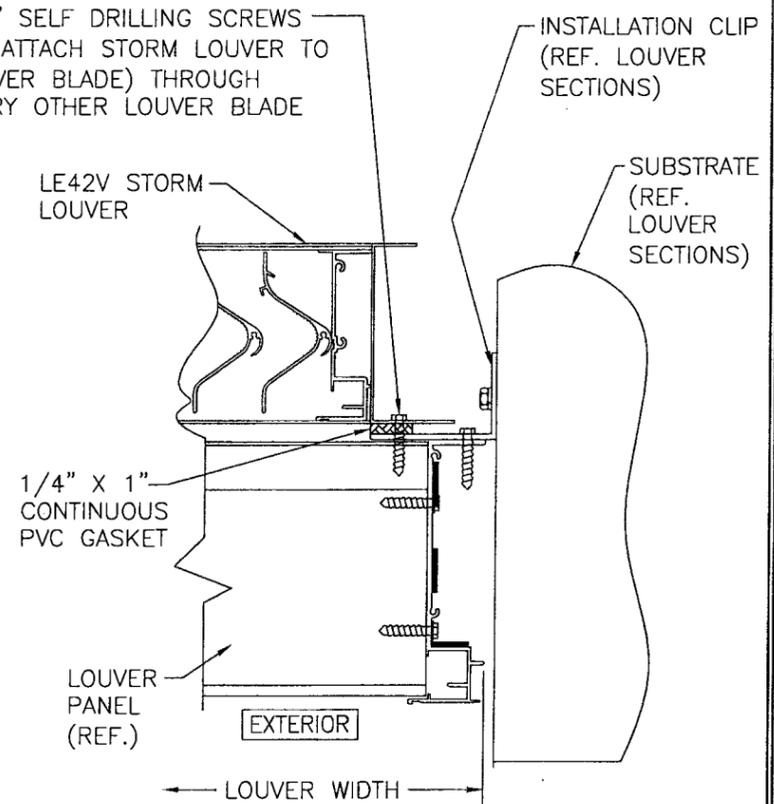
**VERTICAL CROSS SECTION  
LE42V STORM LOUVER DETAIL**

1/4" SELF DRILLING SCREWS (TO ATTACH STORM LOUVER TO LOUVER FRAME) WITHIN 5" OF CORNERS & AT MAX. 10" O.C.



**LE42V STORM LOUVER  
SECTION AT MULLION**

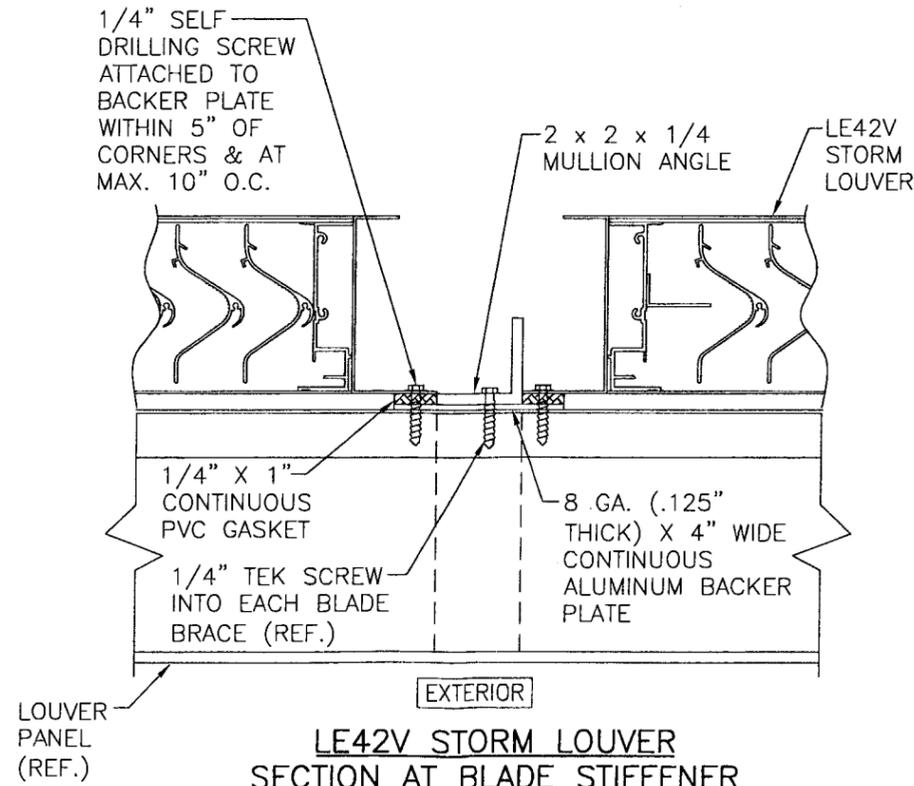
1/4" SELF DRILLING SCREWS (TO ATTACH STORM LOUVER TO LOUVER BLADE) THROUGH EVERY OTHER LOUVER BLADE



**LE42V STORM LOUVER  
JAMB DETAIL**

FOR LOUVER DETAILS,  
SEE SHEETS 1-9

1/4" SELF DRILLING SCREW ATTACHED TO BACKER PLATE WITHIN 5" OF CORNERS & AT MAX. 10" O.C.



**LE42V STORM LOUVER  
SECTION AT BLADE STIFFENER**

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
Acceptance No 08-1224.03  
Expiration Date 09/27/2014

By *[Signature]*  
Miami Dade Product Control  
Division

DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1=4	DATE: 12/02/05
NO.	DATE
BY	DATE
REVISION DESCRIPTION	DATE
DRAWING TITLE <b>EA-64 LOUVER SYSTEM</b>	
CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A.</b>	MANUFACTURER <b>ARROW UNITED INDUSTRIES</b>
8885 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903	314 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888
CERTIFICATION <b>DEC 17 2008</b>	WARREN W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. <b>1464</b>	REV.
SHEET NO. <b>12 OF 15</b>	

1/4" SELF DRILLING SCREWS (TO ATTACH TRANSITION SLEEVE TO LOUVER FRAME) WITHIN 5" OF CORNERS & AT MAX. 10" O.C.

1/4" SELF DRILLING SCREWS (TO ATTACH TRANSITION SLEEVE TO LOUVER FRAME) WITHIN 5" OF CORNERS & AT MAX. 10" O.C.

1/4" SELF DRILLING SCREWS (TO ATTACH TRANSITION SLEEVE TO LOUVER BLADE) THROUGH EVERY OTHER LOUVER BLADE

DUCT TRANSITION SLEEVE FOR CONNECTION OF DUCTS TO LOUVER FRAME

INSTALLATION CLIP (REF. LOUVER SECTIONS)

SUBSTRATE (REF. LOUVER SECTIONS)

1/4" X 1" CONTINUOUS PVC GASKET

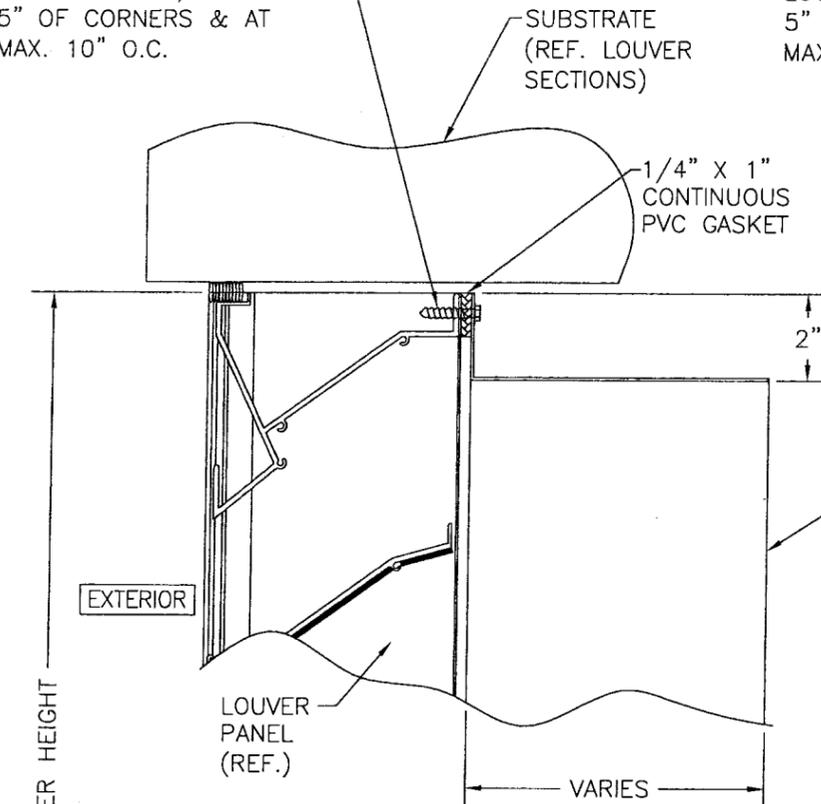
LOUVER PANEL (REF.)

EXTERIOR

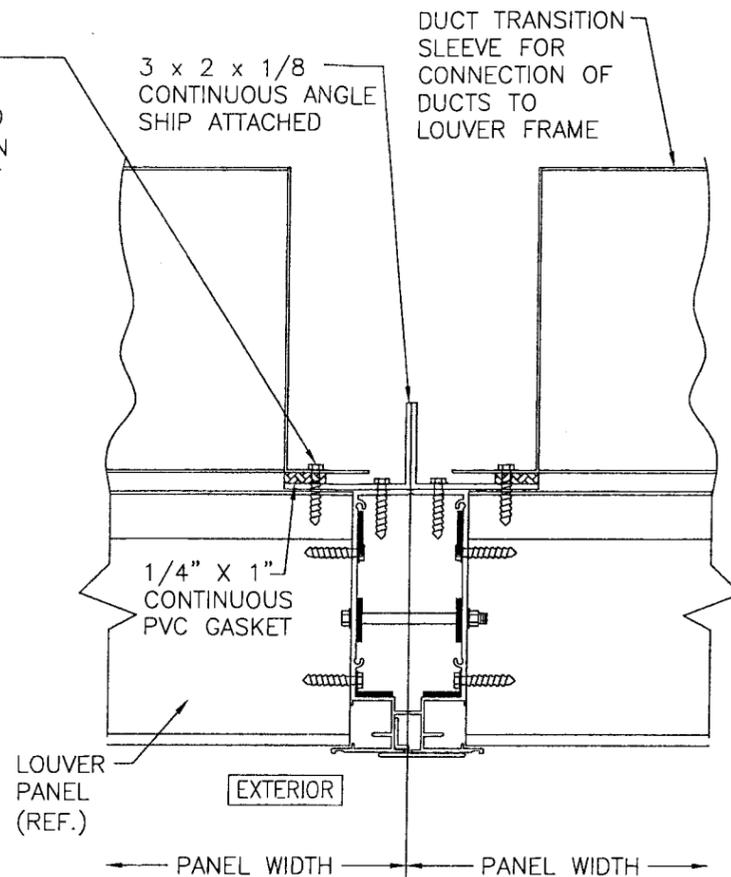
LOUVER WIDTH

**DUCT TRANSITION SLEEVE JAMB DETAIL**

FOR LOUVER DETAILS, SEE SHEETS 1-9



**VERTICAL CROSS SECTION DUCT TRANSITION SLEEVE DETAIL**



**DUCT TRANSITION SLEEVE SECTION AT MULLION**

2 x 2 x 1/4 MULLION ANGLE

DUCT TRANSITION SLEEVE FOR CONNECTION OF DUCTS TO LOUVER FRAME

1/4" SELF DRILLING SCREW ATTACHED TO BACKER PLATE WITHIN 5" OF CORNERS & AT MAX. 10" O.C.

1/4" X 1" CONTINUOUS PVC GASKET

8 GA. (.125" THICK) X 4" WIDE CONTINUOUS ALUMINUM BACKER PLATE

1/4" SELF DRILLING SCREW INTO EACH BLADE BRACE (REF.)

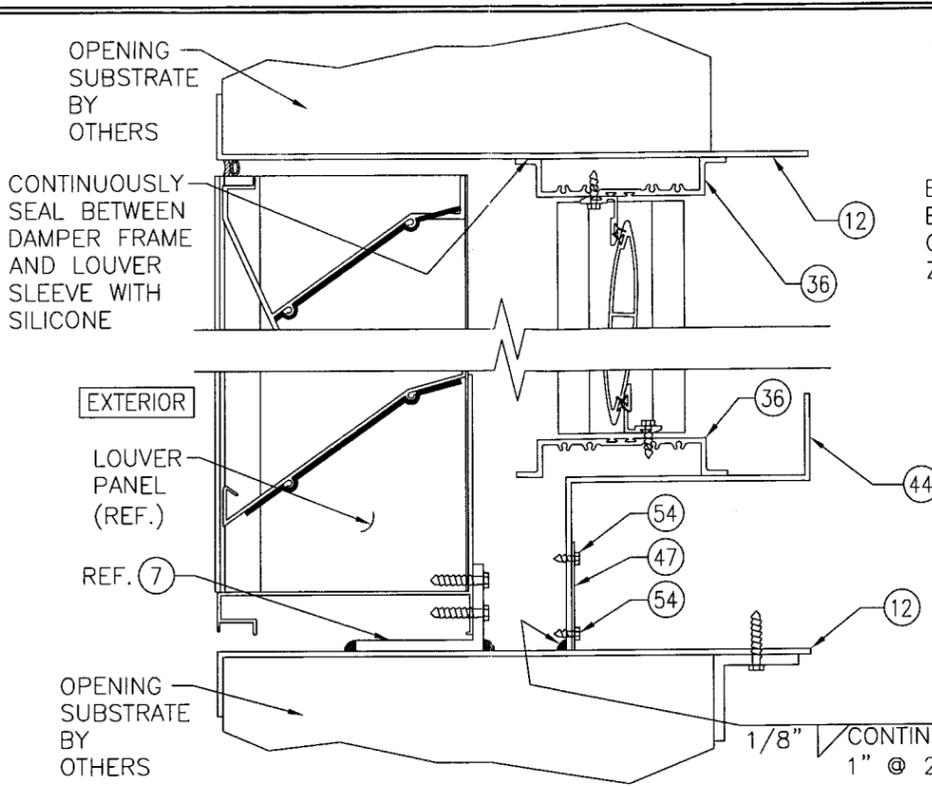
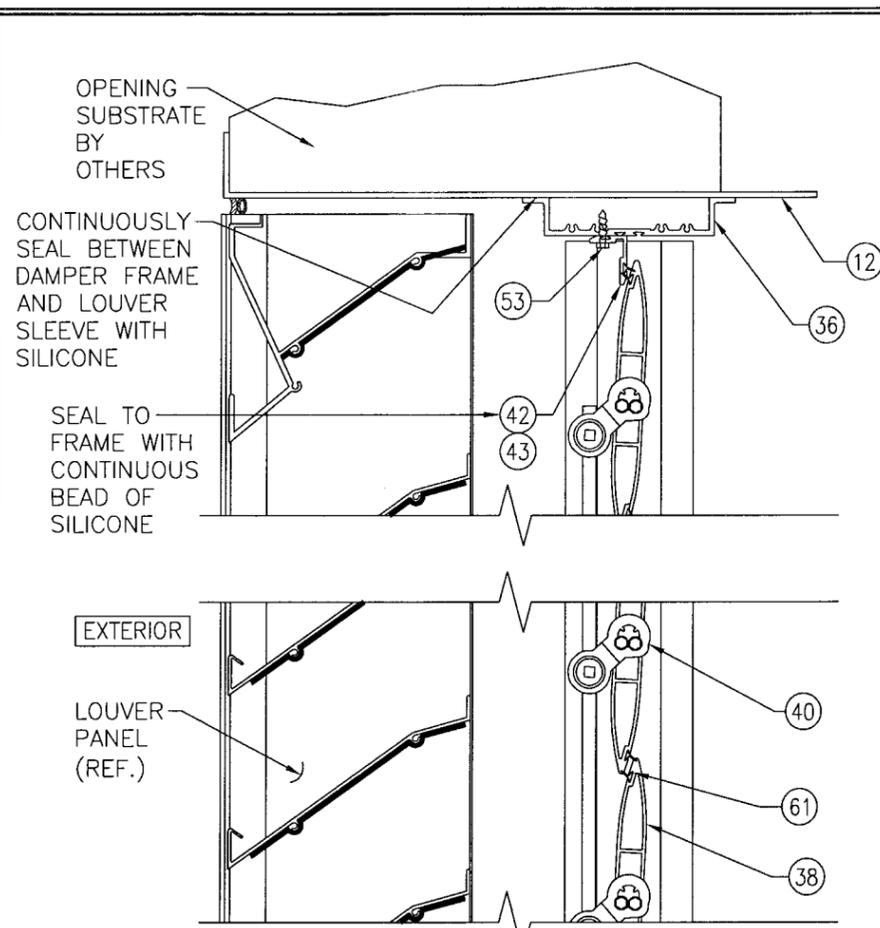
LOUVER PANEL (REF.)

**DUCT TRANSITION SLEEVE SECTION AT BLADE STIFFENER**

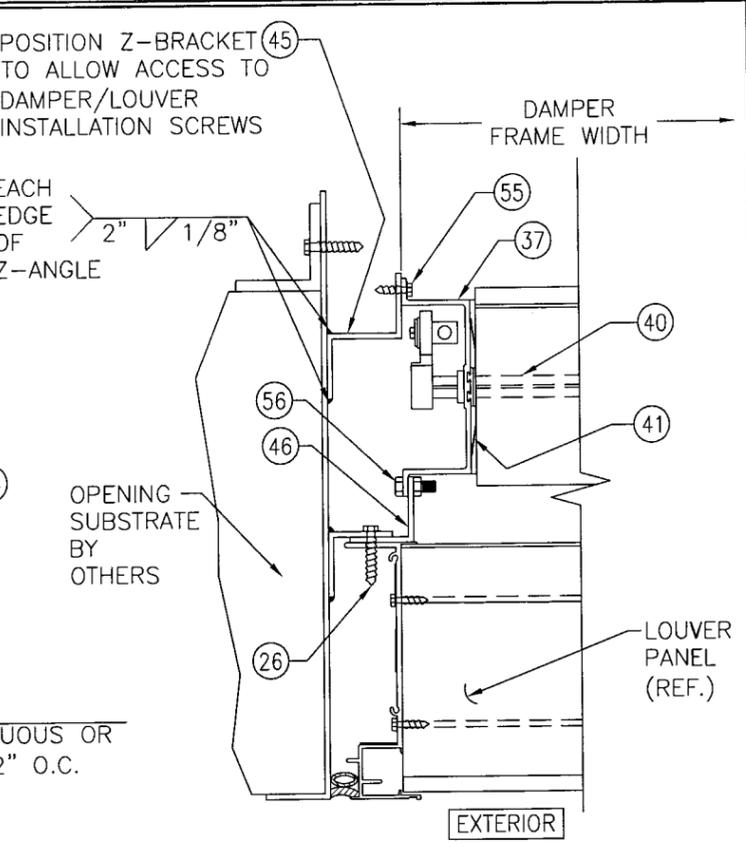
DRAWN BY: W.R.M.		CHECKED BY: W.W.S.	
PLOT: 1=4		DATE: 12/02/05	
NO.	REVISION DESCRIPTION	DATE	BY
DRAWING TITLE: EA-64 LOUVER SYSTEM			
MANUFACTURER: ARROW UNITED INDUSTRIES			
314 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888			
CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.			
8895 N. MILITARY TRAIL, SUITE C-204 PALM BEACH GARDENS, FL 33410 PHONE: 561-775-4902 FAX: 561-775-4903			
DRAWING NO. 1464			
SHEET NO. 13 OF 15			

**PRODUCT REVISED**  
 as complying with the Florida Building Code  
 Acceptance No. 08-1224.03  
 Expiration Date 04/22/2014  
 By: [Signature]  
 Miami Dade Product Control Division

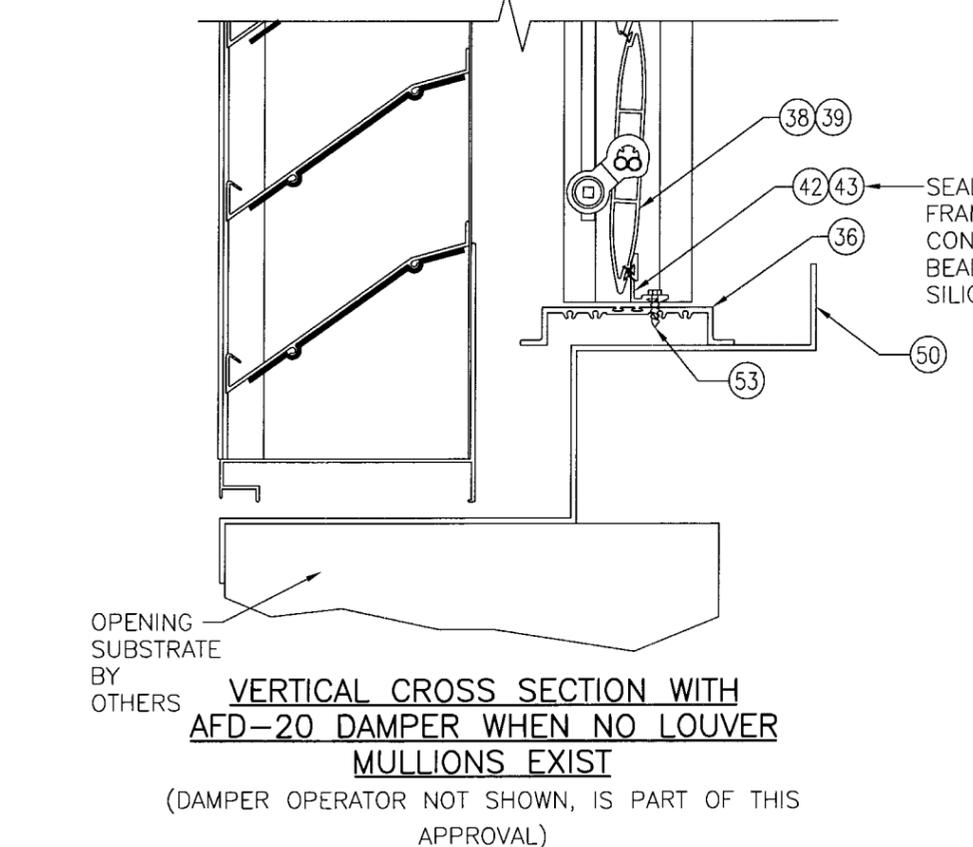
CERTIFICATION  
 DEC 7 2008  
 WARREN W. SCHAEFER, P.E.  
 P.E. NO. 44135



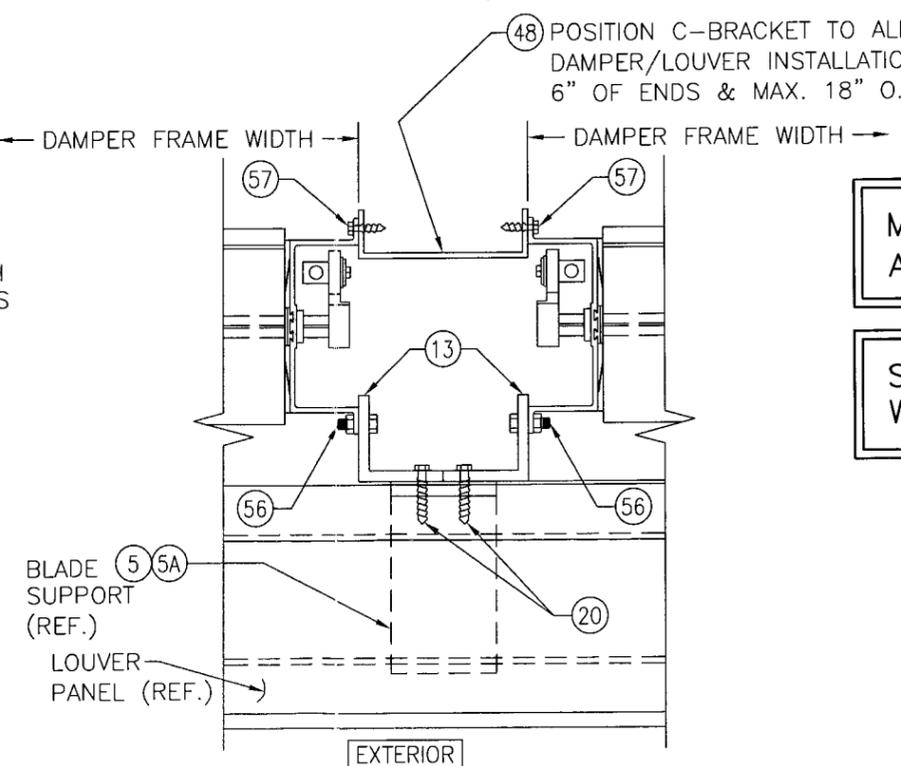
**VERTICAL CROSS SECTION WITH AFD-20 DAMPER WHEN LOUVER MULLION EXISTS**  
 (FOR DAMPER DETAIL NOT SHOWN, SEE OTHER VERTICAL CROSS SECTION ON THIS SHEET)



**HORIZONTAL CROSS SECTION AFD-20 DAMPER DETAIL**



**VERTICAL CROSS SECTION WITH AFD-20 DAMPER WHEN NO LOUVER MULLIONS EXIST**  
 (DAMPER OPERATOR NOT SHOWN, IS PART OF THIS APPROVAL)



**AFD-20 DAMPER MULLION SECTION AT LOUVER MID-SPAN PANEL**  
 (FOR DAMPER DETAIL NOT SHOWN, SEE HORIZONTAL CROSS SECTION AFD-20 DAMPER DETAIL THIS SHEET)

MAX. WIDTH OF ANY SINGLE AFD-20 DAMPER PANEL IS 48"

SEAL ALL STITCH WELDED SEAMS WITH SILICONE SEALANT

FOR LOUVER DETAILS, SEE SHEETS 1-9

**PRODUCT REVISED**  
 as complying with the Florida Building Code  
 Acceptance No. 08-1224-03  
 Expiration Date 04/22/2014  
 By *[Signature]*  
 Miami Dade Product Control Division

DRAWN BY:	W.R.M.	CHECKED BY:	W.W.S.
PLOT:	1=4	DATE:	12/02/05
NO.	REVISION	DESCRIPTION	DATE

**MANUFACTURER**  
**ARROW UNITED INDUSTRIES**  
 314 RIVERSIDE DRIVE  
 WYALUSING, PA 18853  
 570-746-1888

**DRAWING TITLE**  
 EA-64 LOUVER SYSTEM

**CONSULTANTS**  
**W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.**  
 8895 N. MILITARY TRAIL, SUITE C-204  
 PALM BEACH GARDENS, FL 33410  
 PHONE: 561-775-4902 FAX: 561-775-4903

**CERTIFICATION**  
 DEC 17 2008  
 WARREN W. SCHAEFER, P.E.  
 P.E. NO. 44135

**DRAWING NO.**  
 1464

**REV.**  
 SHEET NO.  
 14 OF 15

AFD-20 DAMPER (ALL PARTS BY ARROW UNITED INDUSTRIES)

ITEM #	ITEM DESCRIPTION	MANUFACTURER/NOTES
PARTS		
36	HEAD & SILL FRAME	6063-T5 ALUMINUM
37	JAMB	6063-T6 ALUMINUM
38	BLADE	6063-T5 ALUMINUM
39	HALF-BLADE	6063-T5 ALUMINUM
40	BLADE LINKAGE ASSEMBLY	BY AWW
41	JAMB SEAL	304 STAINLESS STEEL
42	BLADE STOP	6063-T5 ALUMINUM
43	BLADE STOP (OPTIONAL)	6063-T5 ALUMINUM
44	SILL PAN	5052-H32 ALUMINUM
45	Z-BRACKET	5052-H32 ALUMINUM
46	CONTINUOUS SUPPORT ANGLE	6063-T5 ALUMINUM
47	C-BRACKET	5052-H32 ALUMINUM
48	CHANNEL BRACKET	5052-H32 ALUMINUM
49	C-BRACKET	5052-H32 ALUMINUM
50	1-PIECE SILL PAN	5052-H32 ALUMINUM
MISC. FASTENERS		
53	NO. 8 X 3/4" SELF DRILLING SCREW	WITHIN 2" OF CORNERS & MAX. 12" O.C.
54	NO. 8 X 1/2" SELF DRILLING SCREW	4 PER PLATE
55	NO. 8 X 3/4" SELF DRILLING SCREW	2 PER Z-BRACKET
56	1/4-20 X 3/4" BOLT & NUT	WITHIN 1 1/2" FROM ENDS & MAX. 4" O.C.
57	NO. 8 X 3/4" SELF DRILLING SCREW	2 PER CHANNEL BRACKET
SEALS & SEALANTS		
61	BLADE SEAL	SOLID SILICONE

DRAWN BY: W.R.M. CHECKED BY: W.W.S.  
 PLOT: 1=4 DATE: 12/02/05

NO.	REVISION DESCRIPTION	DATE

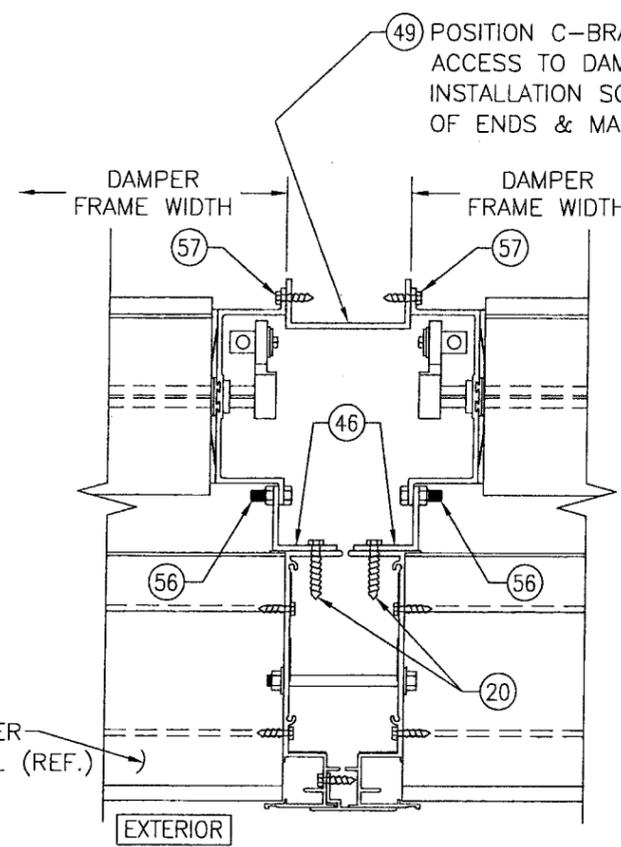
MANUFACTURER  
**ARROW UNITED INDUSTRIES**  
 314 RIVERSIDE DRIVE  
 WYALUSING, PA 18853  
 570-746-1888

DRAWING TITLE  
**EA-64 LOUVER SYSTEM**

CONSULTANTS  
**W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.**  
 8895 N. MILITARY TRAIL, SUITE C-204  
 PALM BEACH GARDENS, FL 33410  
 PHONE: 561-775-4902 FAX: 561-775-4903

CERTIFICATION  
 DEC 17 2008  
 WARREN W. SCHAEFER, P.E.  
 P.E. NO. 44135

DRAWING NO. 1464  
 SHEET NO. 15 OF 15



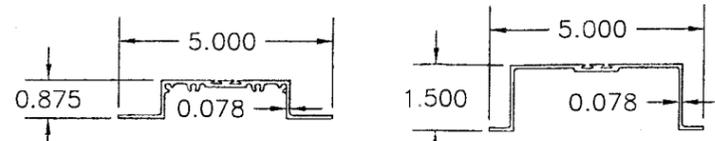
**AFD-20 DAMPER MULLION SECTION AT LOUVER MULLION**

(FOR DAMPER DETAIL NOT SHOWN, SEE OTHER DAMPER MULLION SECTION ON SHEET 14)

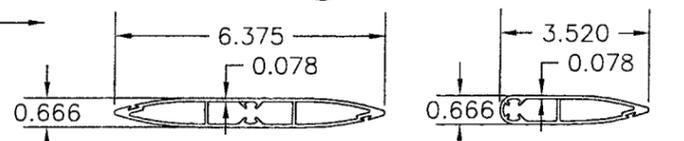
MAX. FRAME WIDTH OF ANY SINGLE AFD-20 DAMPER PANEL IS 48"

SEAL ALL STITCH WELDED SEAMS WITH SILICONE SEALANT

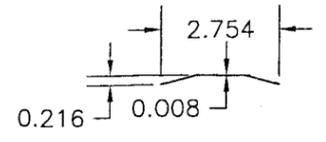
FOR LOUVER DETAILS, SEE SHEETS 1-9



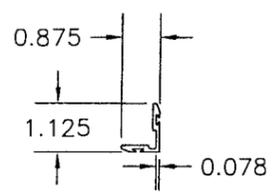
**36 HEAD & SILL FRAME**      **37 JAMB**



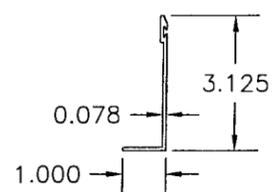
**38 BLADE**      **39 HALF-BLADE**



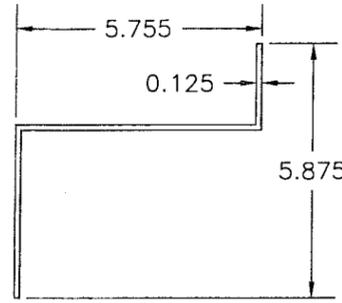
**41 JAMB SEAL**



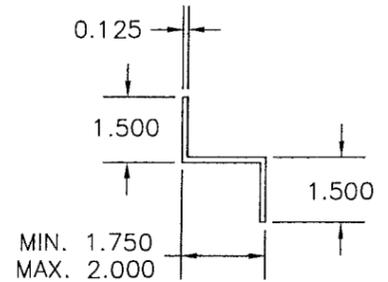
**42 BLADE STOP**



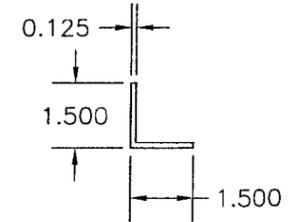
**43 BLADE STOP (OPTIONAL)**



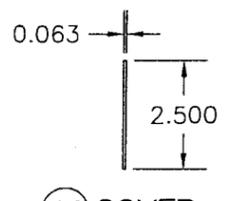
**44 SILL PAN**  
 (FOR USE WITH 2-PIECE SILL PAN CONDITION)



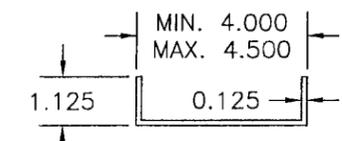
**45 Z-BRACKET**  
 LENGTH = 3"



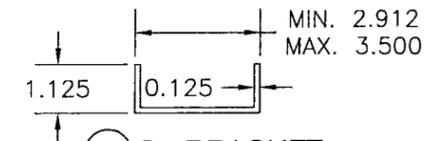
**46 CONTINUOUS SUPPORT ANGLE**



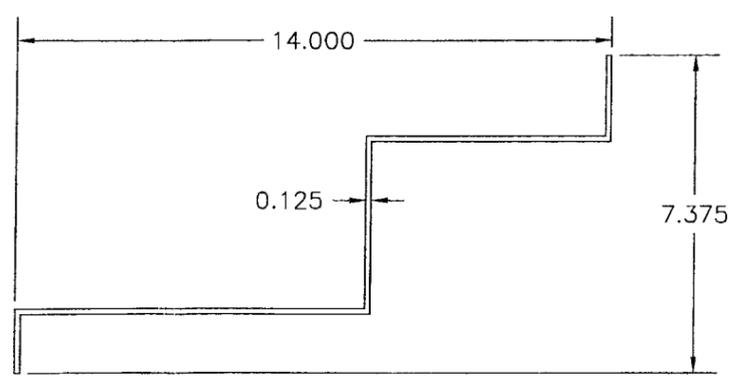
**47 COVER PLATE**



**48 C-BRACKET**  
 LENGTH = 3"



**49 C-BRACKET**  
 LENGTH = 3"



**50 1-PIECE SILL PAN**

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 as complying with the Florida Building Code  
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By *[Signature]*  
 Miami Dade Product Control Division