



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)  
BOARD AND CODE ADMINISTRATION DIVISION

## NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY  
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208  
Miami, Florida 33175-2474  
T (786) 315-2590 F (786) 315-2599

[www.miamidade.gov/economy](http://www.miamidade.gov/economy)

**Air Balance, a division of Mestek, Inc.**  
**450 Riverside Drive**  
**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 and accepted by Miami-Dade County RER-Product Control Section 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 Section (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. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section 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 A320 6" Aluminum Louver System (Dp +/- 180.0 psf)**

**APPROVAL DOCUMENT:** Drawing No. **1465**, titled "A320 Louver System", sheets 1 through 15 of 15, dated 12/02/2005, with revision C1 dated 02/26/2019, 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 Section.

**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, model/series, 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 NOA # 19-0306.04** and consists of this page 1 and evidence pages E-1, E-2 and E-3, as well as approval document mentioned above.

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



**NOA No. 20-0622.23**  
**Expiration Date: April 22, 2024**  
**Approval Date: August 27, 2020**  
**Page 1**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**1. Evidence submitted under previous NOAs**

**A. DRAWINGS “Submitted under NOA # 11-1117.17”**

1. Drawing No. **1465**, titled “A320 Louver System”, sheets 1 through 15 of 15, dated 12/02/2005, with revision A1 dated 11/08/2011, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E.

**B. TESTS “Submitted under NOA No. 08-1224.03”**

	<u>Test Report</u>	<u>Test Standard</u>	<u>Test Date</u>	<u>Signature</u>
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 “Submitted under NOA No. 08-1224.03”**

1. Anchoring calculations prepared by W.W. Schaefer Engineering & Consulting, P.A., dated 12/17/2008, signed and sealed by Warren W. Schaefer, P.E.

**D. QUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS**

1. Statement letter of code conformance to 2010 and 5<sup>th</sup> edition (2014) FBC issued by W. W. Schaefer Engineering & Consulting, P.A., dated 04/10/2014, signed and sealed by Warren W. Schaefer, P.E.  
**“Submitted under NOA No. 13-1017.05”**
2. No financial interest letter issued by W. W. Schaefer Engineering & Consulting, P.A., dated 09/04/2013, signed and sealed by Warren W. Schaefer, P.E.



**Carlos M. Utrera, P.E.**  
**Product Control Examiner**  
**NOA No. 20-0622.23**

**Expiration Date: April 22, 2024**  
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**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**2. Evidence submitted under NOA # 17-0713.14**

**A. DRAWINGS**

1. Drawing No. **1465**, titled "A320 Louver System", sheets 1 through 15 of 15, dated 12/02/2005, with revision B1 dated 07/05/2017, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E.

**B. TESTS**

1. None.

**C. CALCULATIONS**

1. None.

**D. QUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS**

1. Statement letter of code conformance to the 5<sup>th</sup> Edition (2014) and 6<sup>th</sup> Edition (2017) FBC issued by W. W. Schaefer Engineering & Consulting, P.A., dated 07/05/2017, signed and sealed by Warren W. Schaefer, P.E.
2. Company name change request letter issued by W.W. Schaefer Engineering & Consulting, P.A., dated 07/05/2017, signed by Warren W. Schaefer, P.E.



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**Carlos M. Utrera, P.E.**  
**Product Control Examiner**  
**NOA No. 20-0622.23**  
**Expiration Date: April 22, 2024**  
**Approval Date: August 27, 2020**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**3. New evidence submitted**

**A. DRAWINGS “Submitted under NOA # 19-0306.02”**

1. Drawing No. **1465**, titled “A320 Louver System”, sheets 1 through 15 of 15, dated 12/02/2005, with revision C1 dated 02/26/2019, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E.

**B. TESTS “Submitted under NOA # 19-0306.02”**

1. Test report on 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94  
2) Large Missile Impact Test per FBC, TAS 201-94  
3) Cyclic Wind Pressure Loading per FBC, TAS 203-94  
along with marked-up drawings and installation diagram of an EA-64 Louver, prepared by Intertek, Test Report No. **J3223.01-109-18**, dated 02/26/2019, signed and sealed by Daniel C. Culbert, P.E.

**C. CALCULATIONS “Submitted under NOA # 19-0306.02”**

1. Anchoring calculations prepared by W.W. Schaefer Engineering & Consulting, P.A., dated 02/26/2019, signed and sealed by Warren W. Schaefer, P.E.

**D. QUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS**

1. Statement letter of code conformance to the 6<sup>th</sup> Edition (2017) and 7<sup>th</sup> Edition (2020) FBC issued by W. W. Schaefer Engineering & Consulting, P.A., dated 06/03/2020, signed and sealed by Warren W. Schaefer, P.E.

**“Submitted under NOA # 19-0306.02”**

2. Statement letter of no financial interest issued by W. W. Schaefer Engineering & Consulting, P.A., dated 02/26/2019, signed and sealed by Warren W. Schaefer, P.E.



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Carlos M. Utrera, P.E.  
Product Control Examiner  
NOA No. 20-0622.23  
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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 1/2"	2"
(2) 1/4" BOLT	STEEL OR METAL STUD	FULL	3/4"
(4) 3/8" SLEEVE ANCHOR	CONCRETE	2 1/2"	2 1/2"
(2) 3/8" BOLT	STEEL	FULL	3/4"

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

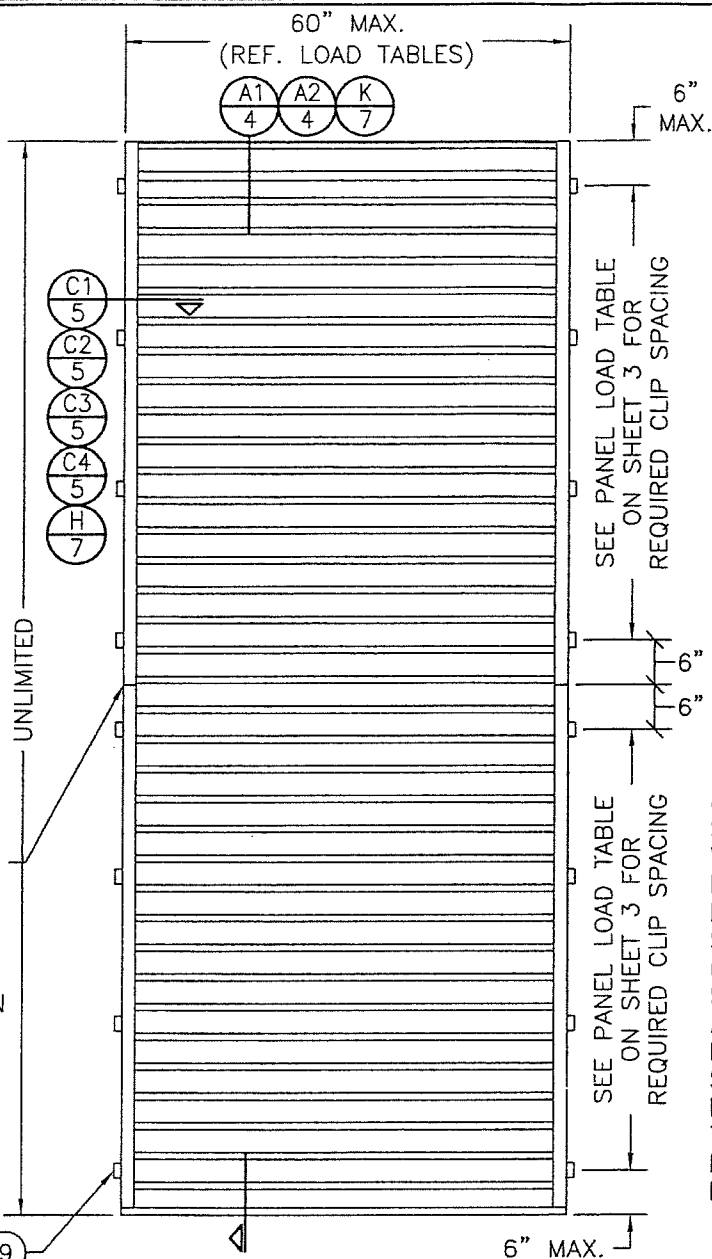
HEAD TO JAMB: HEAD FRAME IS SQUARE CUT, BUTTED AND JOINED TO JAMB WITH ONE 1/8" X 5" WELD AND 2 NO. 8 X 3/4" S.S. SMS SCREWS THROUGH JAMB AND INTO HEADER SCREW SPLINES.

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:

- 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.
- THESE LOUVER SYSTEMS HAVE BEEN DESIGNED & TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC) AND PROTOCOLS TAS-100, 201, 202 & 203 INCLUDING HIGH VELOCITY HURRICANE ZONES (HVHZ).
- EACH LOUVER ASSEMBLY SHALL BE PERMANENTLY LABELED AS FOLLOWS: AIR BALANCE INC. WYALUSING, PA MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED
- ALL CONCRETE SUBSTRATE SHALL BE MIN. 3000 PSI.
- ALL WOOD SUBSTRATE SHALL BE MIN. G = 0.55 DENSITY.
- ALL METAL STUD SUBSTRATE SHALL BE MIN. 16 GA. Fy = 33 ksi.
- ALL STRUCTURAL STEEL SUBSTRATE SHALL BE MIN. 12 GA. Fy = 36 ksi.
- PANEL WIDTHS & HEIGHTS ARE LIMITED AS SHOWN IN ELEVATIONS.
- 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).
- MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF FLORIDA BUILDING CODE CHAPTER 20.
- 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.
- 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.
- 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

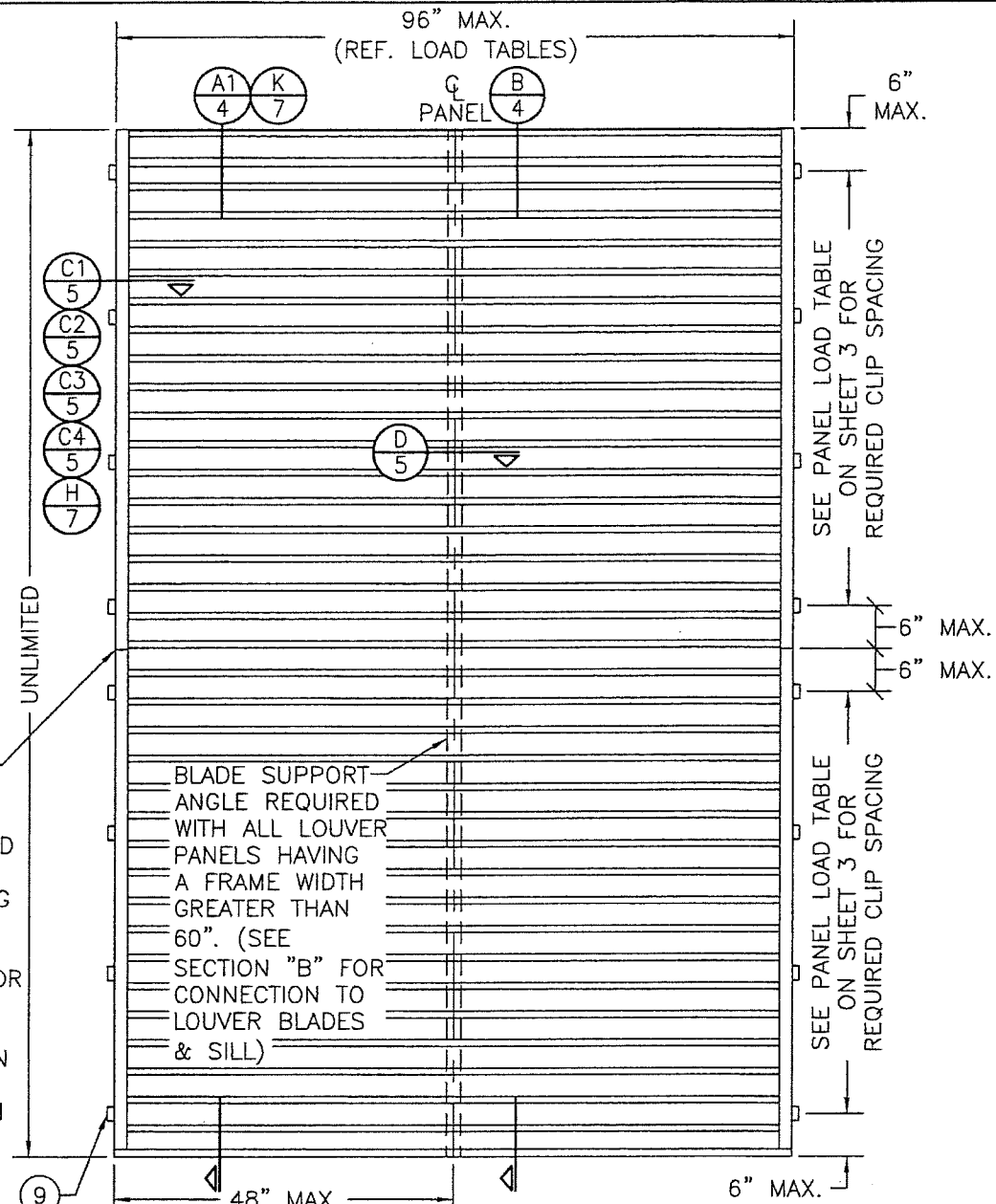
NOTE: LOUVER PANELS MAY BE STACKED/SPLICED VERTICALLY OR THE LOUVER PANEL MAY RUN VERTICALLY TO INFINITE HEIGHT PROVIDING OPENING IS PROPERLY DESIGNED BY OTHERS TO SUPPORT THE LOUVER PANELS.

INSTALLATION CLIPS ARE NOT APPLICABLE WHEN LOUVER IS SLEEVE MOUNTED

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 19-0306.04

Expiration Date 04/22/2024

By *[Signature]*  
Miami-Dade Product Control



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

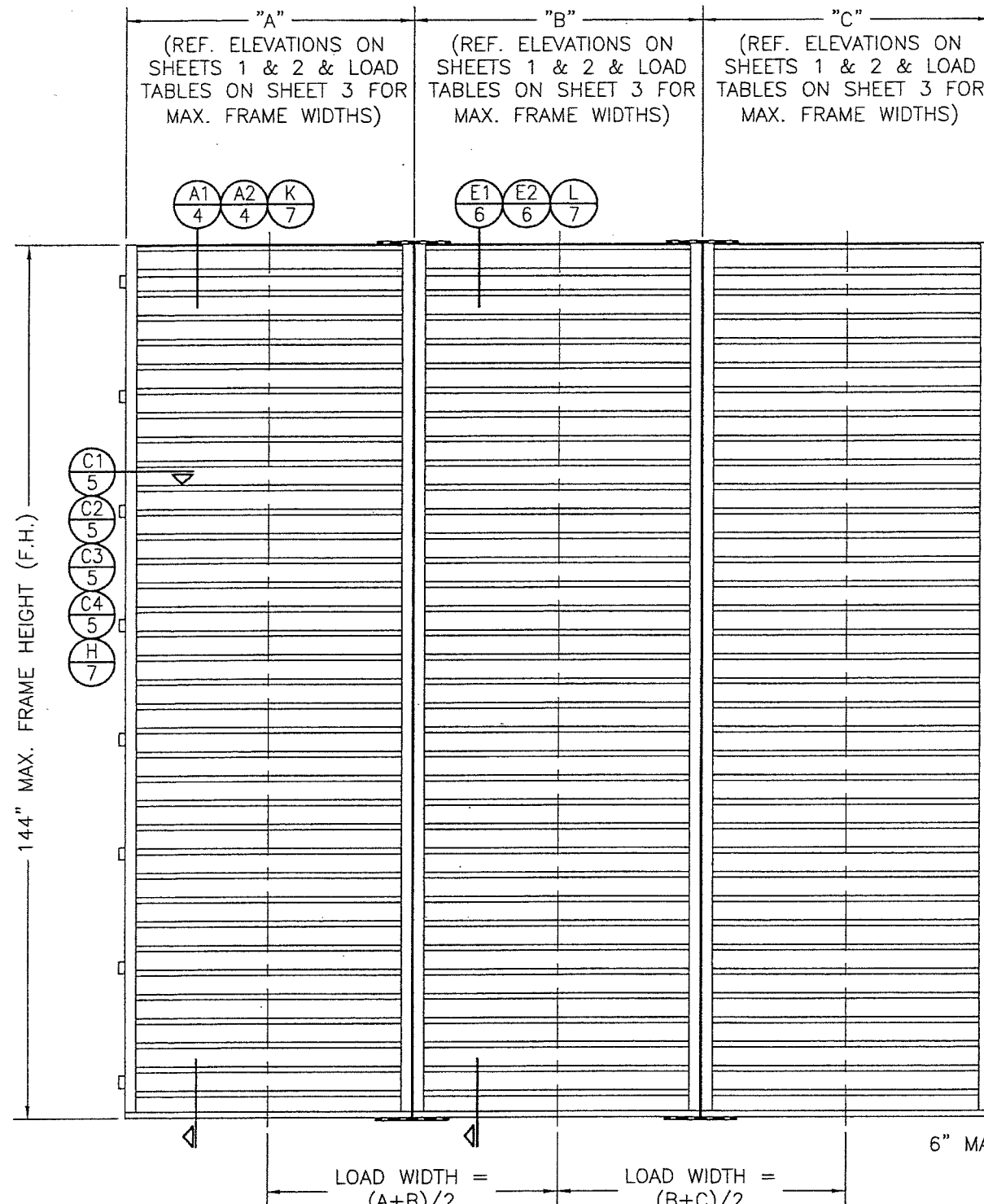
NOA-No. 20-0622.23

Expiration Date 04/22/2024

By *[Signature]*  
Miami-Dade Product Control

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 STATED ON THESE DRAWINGS.

DRAWN BY: W.R.M.		CHECKED BY: W.W.S.	
PLOT: 1=24		DATE: 12/02/05	
DATE	BY	W.R.M.	W.W.S.
11/08/11			
07/05/17			
02/26/19			
REVISION DESCRIPTION	STANDARDS	NAME	SPACING
A1	UPDATE TO CURRENT		
B1	MANUFACTURER NAME		
C1	CHANGE CLIP		
NO. 1			
AIR BALANCE: A DIVISION OF MESTEK, INC.			
450 RIVERSIDE DRIVE			
WYALUSING, PA 18853			
570-746-1888			
A320 6" LOUVER SYSTEM			
CONSULTANTS			
W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)			
7480 150TH COURT NORTH			
PALM BEACH GARDENS, FL 33418			
PHONE: 561-744-3424			
W. SCHAEFER, P.E.			
P.E. NO. 44135			
APR 02 2019			
CERTIFICATION			
DRAWING NO. 1465			
REV. C			
SHEET NO. 1 OF 15			



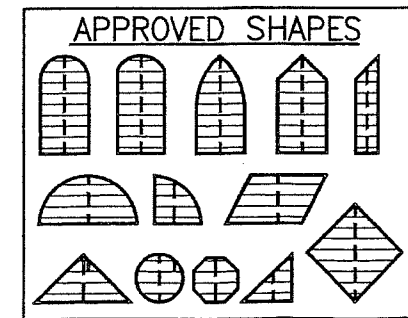
### EXTERIOR ELEVATION MULLED UNITS

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

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

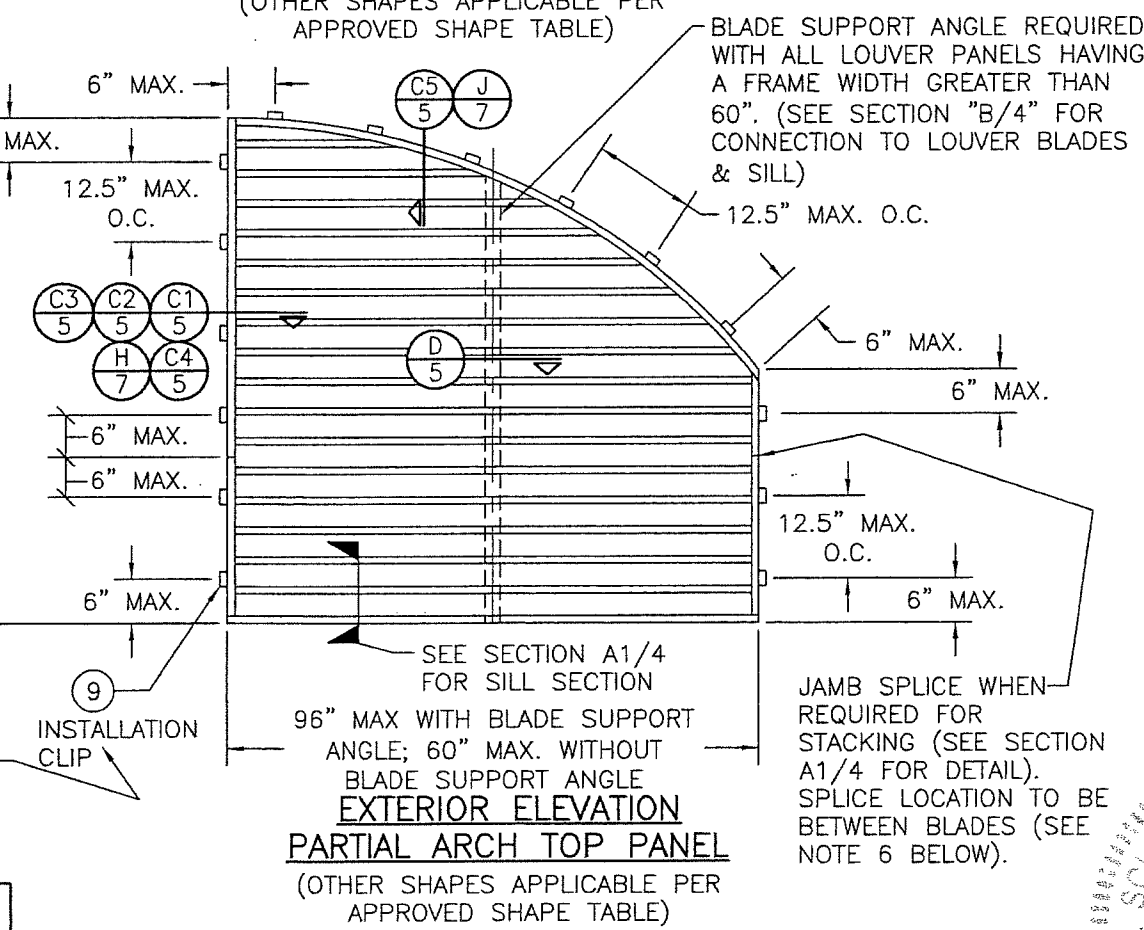
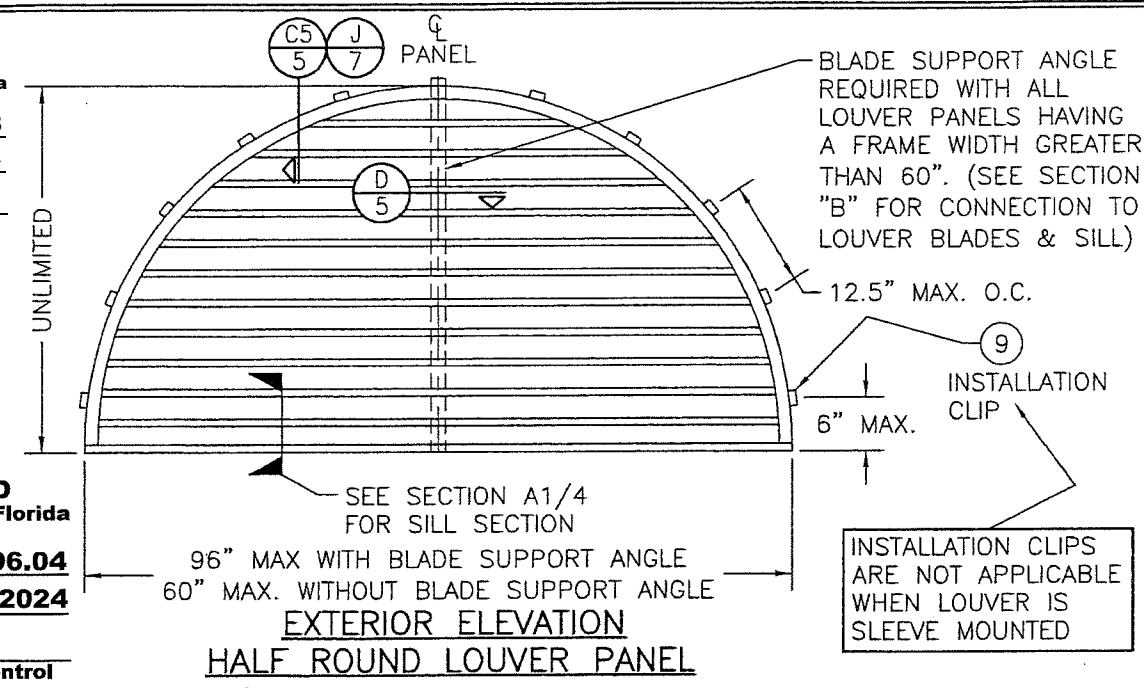
**PRODUCT REVISED**  
as complying with the Florida Building Code  
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#### NOTES:

1. OTHER SHAPES MAY APPLY PROVIDING THEY ARE SIMILAR TO THOSE SHOWN & HAVE CORNER CONSTRUCTION AS DESCRIBED ON ALL SHEETS.
2. 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.
3. CLIP SPACING IS RESTRICTED TO 6" FROM ENDS & 12.5" MAX. O.C. FOR ALL SHAPED LOUVER PANELS.
4. WHEN BLADES EXCEED 60" IN LENGTH (UP TO 96") BLADE SUPPORT ANGLE AND BRACKETS ARE REQUIRED AT A MAXIMUM OF 48" FROM BLADE ENDS.
5. ALL OTHER SHAPES, EXCEPT SQUARE & RECTANGULAR, MUST HAVE BLADE SUPPORT ANGLE AND BRACKETS AT CENTER OF SPAN REGARDLESS OF BLADE LENGTH.
6. SPLICES MAYNOT 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.	DATE	BY	REVISION DESCRIPTION
<p>DRAWING TITLE: A320 6" LOUVER SYSTEM</p> <p>MANUFACTURER: AIR BALANCE, A DIVISION OF MESTEK, INC. 450 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888</p> <p>CONSULTANTS: W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424</p> <p>CERTIFICATION: APR 02 2019</p> <p>DRAWING NO: 1465</p> <p>SHEET NO: 2 OF 15</p>			



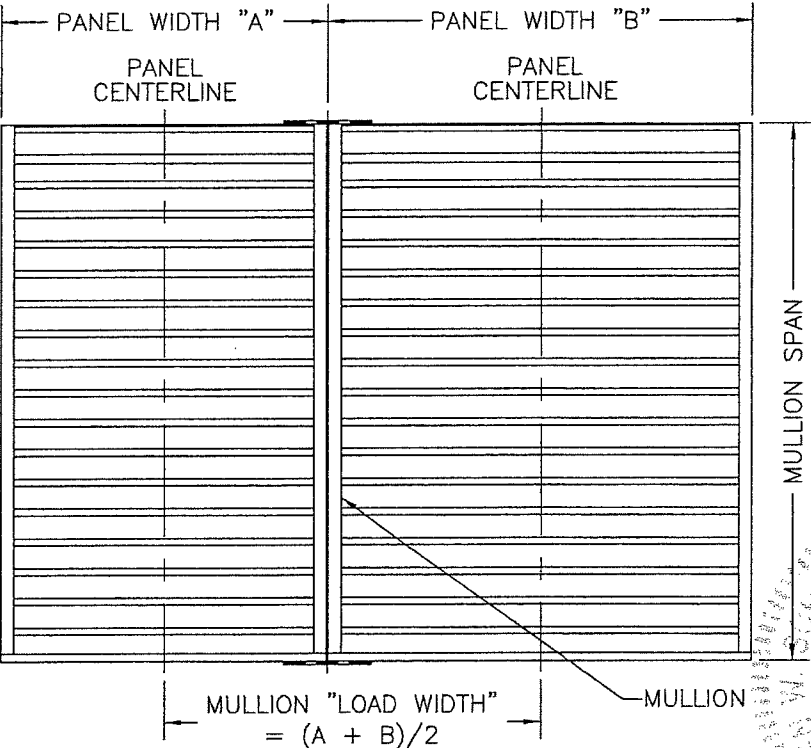
MULLION LOAD TABLE (SEE INSTRUCTIONS BELOW)											
MULLION SPAN (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (+/- PSF)	MULLION SPAN (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (+/- PSF)	MULLION SPAN (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (+/- PSF)	MULLION SPAN (IN.)	LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (+/- 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
	90"	175.3		84"	75.1		84"	53.7		84"	37.6
	84"	180.0		78"	80.9		78"	57.8		78"	40.4
				72"	87.6		72"	62.6		72"	43.8
30"	96"	131.5		66"	95.6		66"	68.3		66"	47.8
	90"	140.2		60"	105.2		60"	75.1		60"	52.6
	84"	150.2		54"	116.9		54"	83.5		54"	58.4
	78"	161.8		48"	131.5		48"	93.9		48"	65.7
	72"	175.3		42"	150.2		42"	107.3		42"	75.1
36"	66"	180.0	66"	36"	175.3	96"	36"	125.2	132"	36"	87.6
	96"	109.6		30"	180.0		30"	150.2		30"	105.2
	90"	116.9		96"	59.8		24"	180.0		24"	131.5
	84"	125.2		90"	63.7		96"	41.1		18"	175.3
	78"	134.8		84"	68.3		90"	43.8		90"	27.2
	72"	146.1		78"	73.5		84"	47.0		90"	29.0
42"	66"	159.3		72"	79.7		78"	50.6		84"	31.1
	60"	175.3		66"	86.9		72"	54.8		78"	33.5
	54"	180.0		60"	95.6		66"	59.8		72"	36.3
	96"	93.9		54"	106.2		60"	65.7		66"	39.6
	90"	100.2		48"	119.5		54"	73.0		60"	43.6
	84"	107.3		42"	136.6		48"	82.2		54"	48.4
48"	78"	115.6	72"	36"	159.3	108"	42"	93.9	144"	48"	54.4
	72"	125.2		30"	180.0		36"	109.6		42"	62.2
	66"	136.6		96"	54.8		30"	131.5		36"	72.6
	60"	150.2		90"	58.4		24"	164.3		30"	87.1
	54"	166.9		84"	62.6		18"	180.0		24"	108.9
	48"	180.0		78"	67.4		96"	36.5		18"	145.2
48"	96"	82.2		72"	73.0		90"	39.0		72"	28.0
	90"	87.6		66"	79.7		84"	41.7		66"	30.5
	84"	93.9		60"	87.6		78"	44.9		60"	33.5
	78"	101.1		54"	97.4		72"	48.7		54"	37.3
	72"	109.6		48"	109.6		66"	53.1		48"	41.9
	66"	119.5		42"	125.2		60"	58.4		42"	47.9
	60"	131.5		36"	146.1		54"	64.9		36"	55.9
	54"	146.1		30"	175.3		48"	73.0		30"	67.1
48"	48"	164.3		24"	180.0		42"	83.5		24"	83.9
	42"	180.0					36"	97.4		18"	111.8
							30"	116.9			
							24"	146.1			
							18"	180.0			

NOTE: CLIP SPACING SHOWN SHALL BE REDUCED TO 9.5" & 15" RESPECTFULLY WHEN SUBSTRATE IS CMU.

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" OR 9.5" O.C. 20" & 15" CLIP SPACING IS ONLY ALLOWED ON RECTANGULAR & SQUARE SHAPE LOUVERS.  
(2) PRESSURES RELATING TO 12.5" & 9.5" CLIP SPACINGS 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 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  
as complying with the Florida Building Code  
NOA-No. 19-0306.04  
Expiration Date 04/22/2024  
By *[Signature]*  
Miami-Dade Product Control

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as complying with the Florida Building Code  
NOA-No. 20-0622.23  
Expiration Date 04/22/2024  
By *[Signature]*  
Miami-Dade Product Control

DRAWN BY: W.R.M.  
CHECKED BY: W.W.S.  
PLOT: 1=24  
DATE: 12/02/05

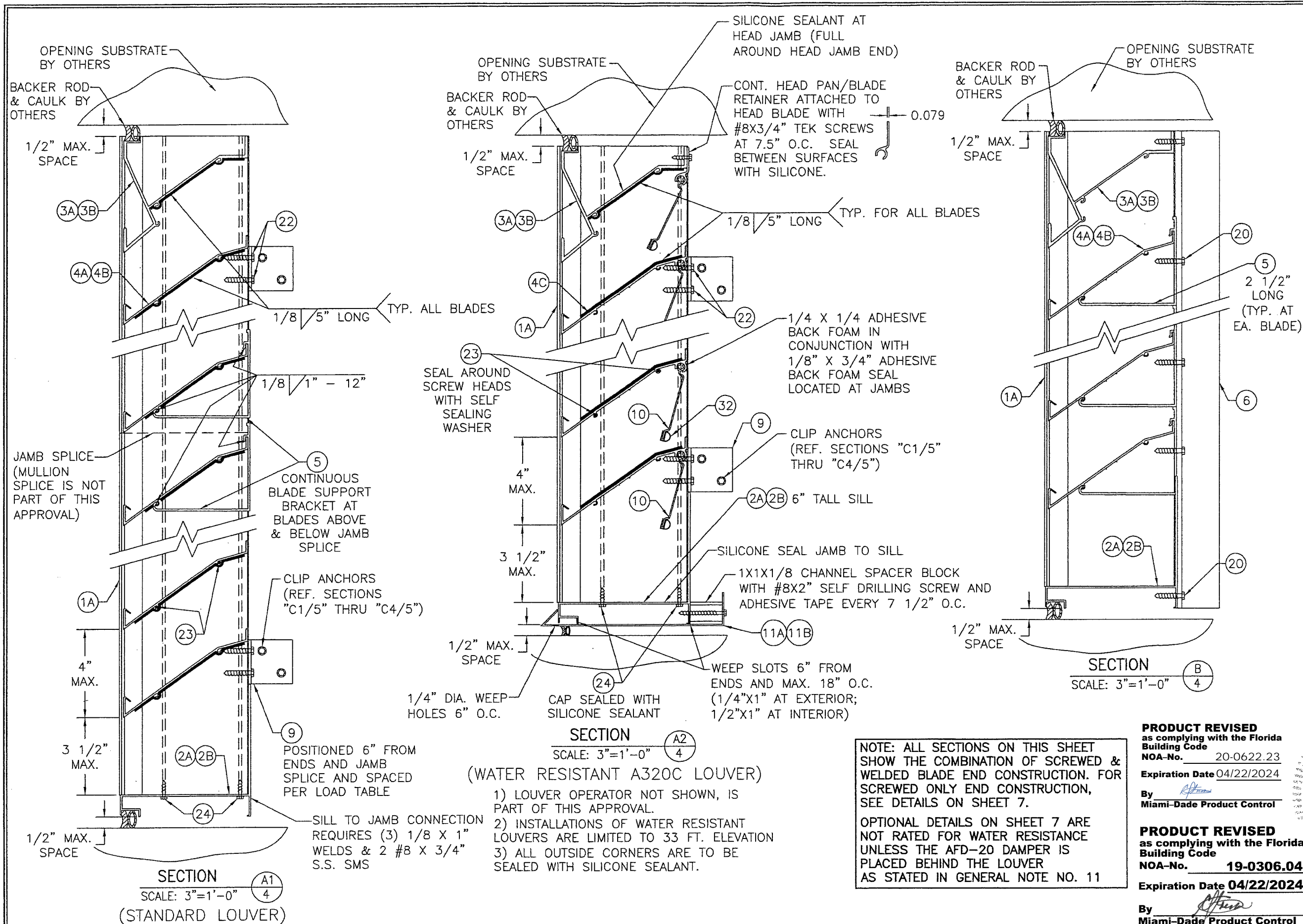
DATE:   
BY:   
REVISION DESCRIPTION:   
NO.:

AIR BALANCE:  
A DIVISION OF MESTEK, INC.  
450 RIVERSIDE DRIVE  
WYALUSING, PA 18853  
570-746-1888

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

CERTIFICATION  
NO. 44135  
APR 02 2019  
STATE OF FLORIDA  
WARRICK W. SCHAEFER, P.E.  
P.E. NO. 44135

DRAWING NO. 1465  
SHEET NO. 3 OF 15



**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

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NOA-No. 20-0622.23  
Expiration Date 04/22/2024

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Miami-Dade Product Control

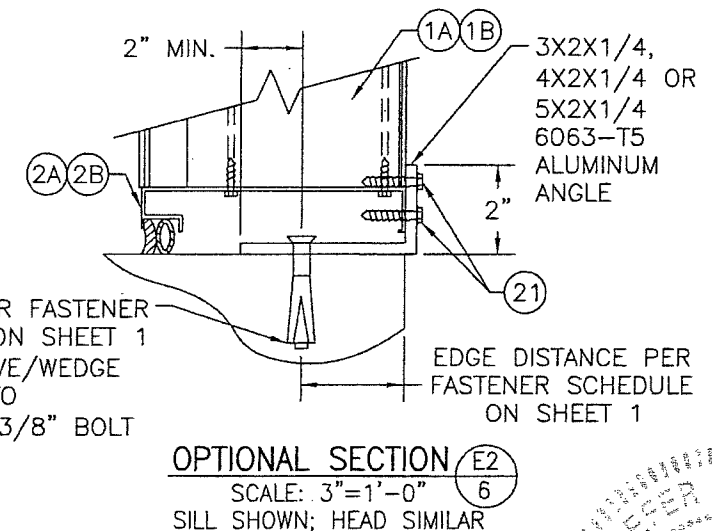
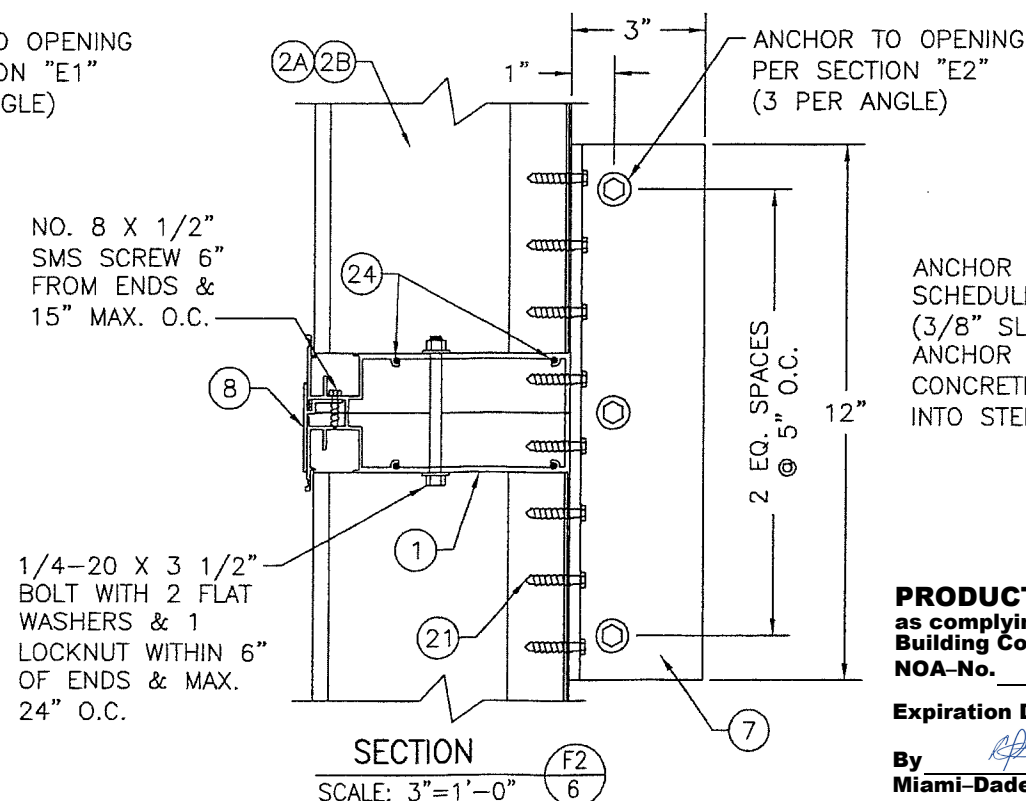
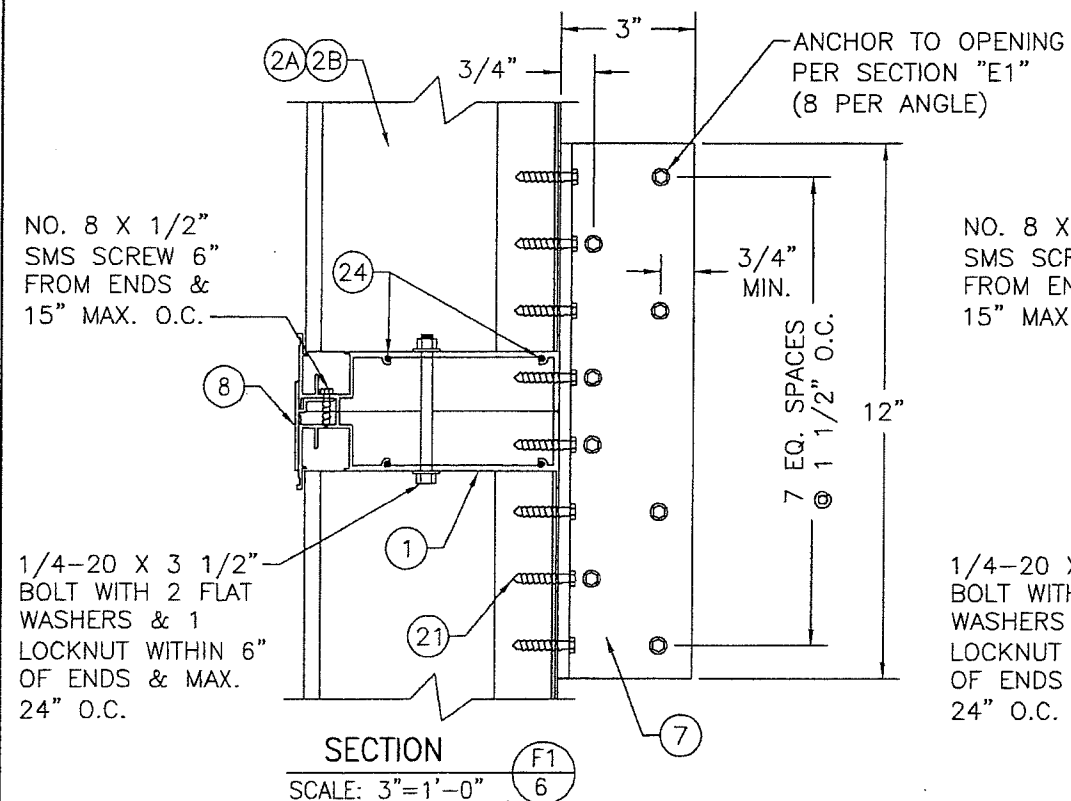
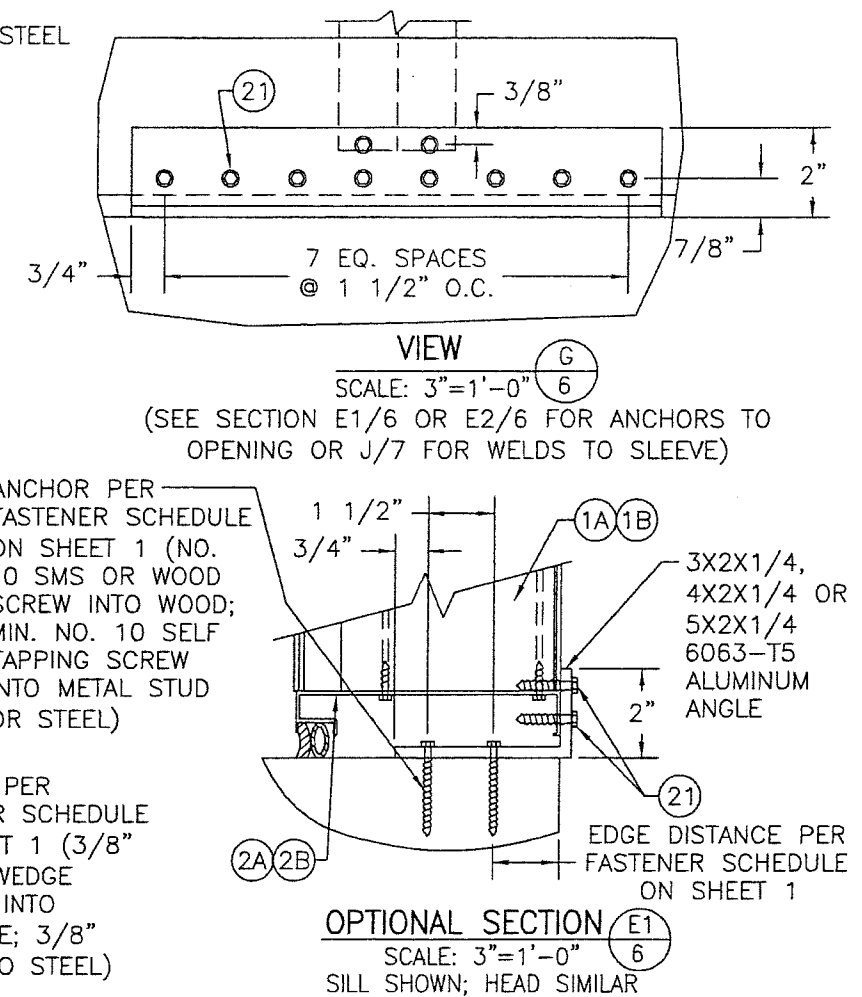
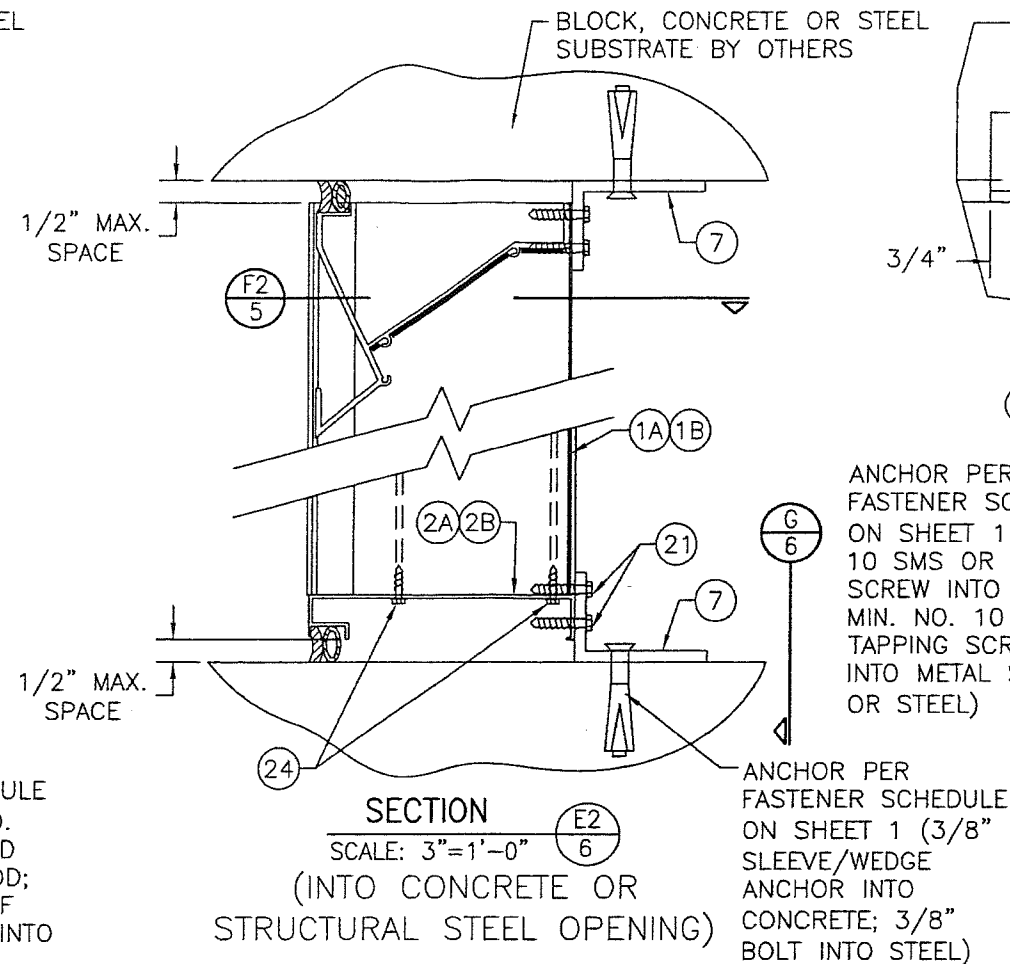
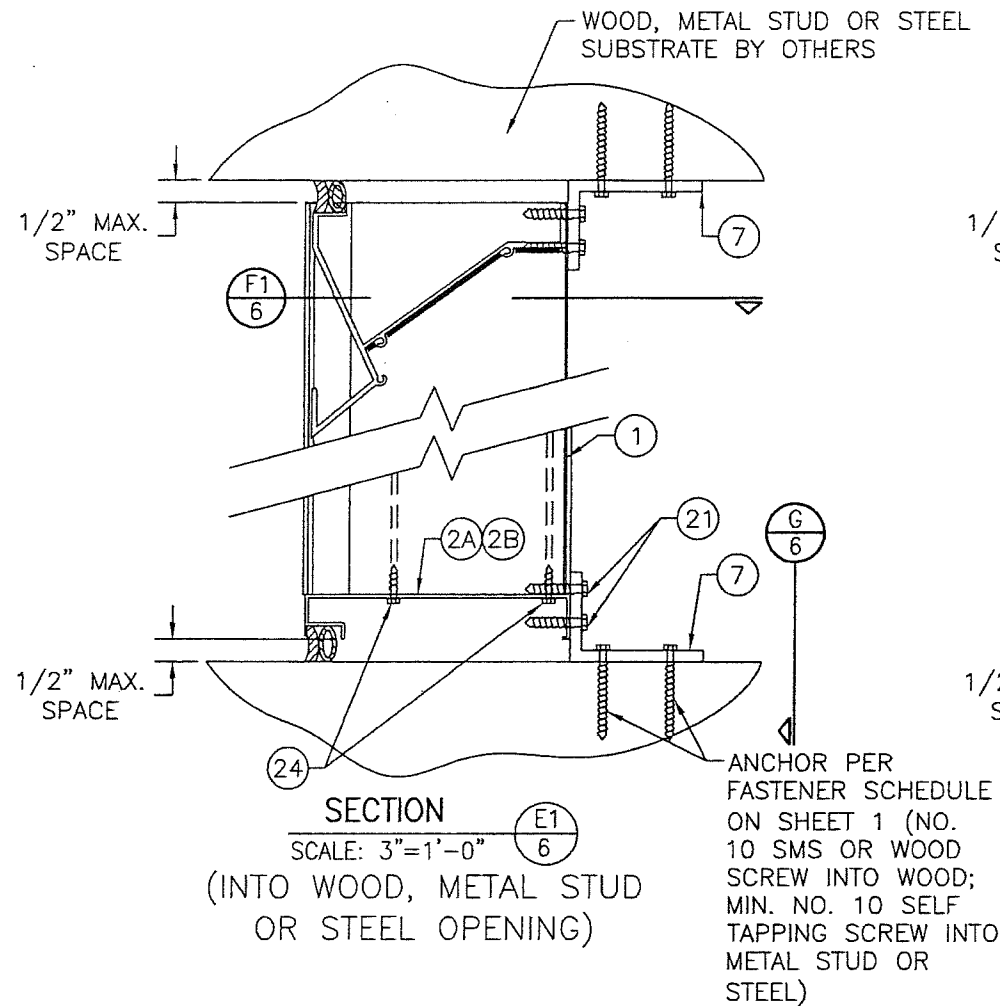
**PRODUCT REVISED**  
as complying with the Florida Building Code  
NOA-No. 19-0306.04  
Expiration Date 04/22/2024

By *[Signature]*  
Miami-Dade Product Control

DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1=4	DATE: 12/02/05
DATE	BY
REVISION DESCRIPTION	
NO.	
<p><b>DRAWING TITLE</b> A320 LOUVER SYSTEM</p> <p><b>CONSULTANTS</b> W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424</p> <p><b>MANUFACTURER</b> AIR BALANCE: A DIVISION OF MESTEK, INC. 450 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888</p>	
<b>CERTIFICATION</b>	<b>APR 02 2019</b>
<b>DRAWING NO.</b> 1465	<b>REV.</b> C
<b>SHEET NO.</b> 4	<b>OF 15</b>





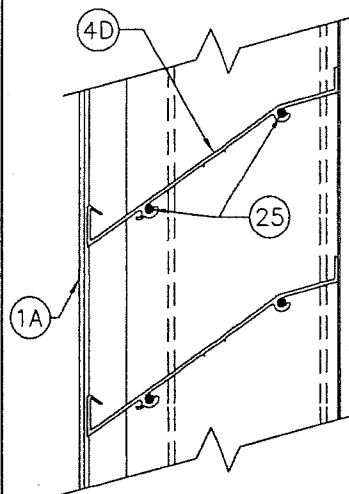


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as complying with the Florida Building Code  
NOA-No. 20-0622.23  
Expiration Date 04/22/2024  
By Miami-Dade Product Control

**PRODUCT REVISED**  
as complying with the Florida Building Code  
NOA-No. 19-0306.04  
Expiration Date 04/22/2024  
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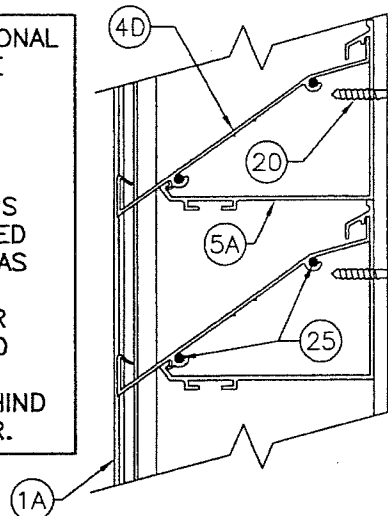
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PLOT: 1=4	DATE: 12/02/05
DATE	BY
REVISION DESCRIPTION	NO.
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DRAWING NO. 1465	REV. C
SHEET NO. 6 OF 15	



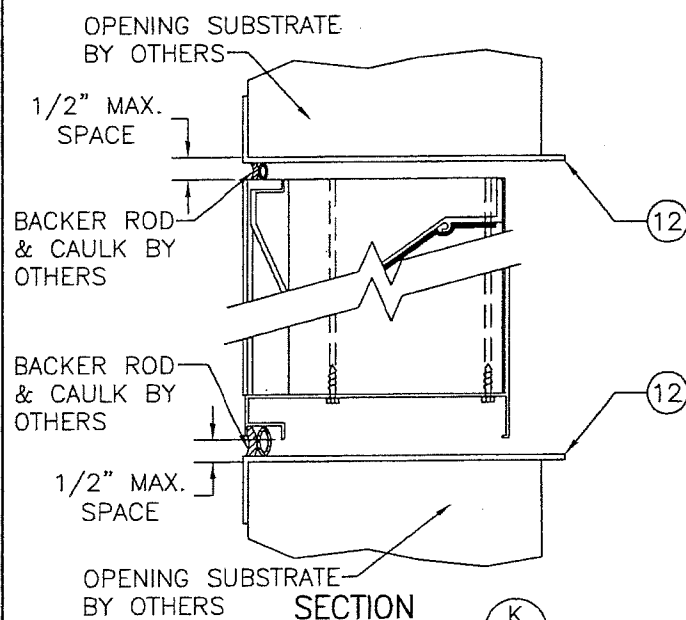


OPTIONAL BLADE DETAIL  
WITH SCREWED END  
CONSTRUCTION  
(STANDARD LOUVER)

THESE OPTIONAL  
DETAILS ARE  
NOT WATER  
RESISTANT  
UNLESS ALL  
BLADE END  
CONNECTIONS  
ARE SCREWED  
& WELDED AS  
SHOWN ON  
SHEET 4 OR  
THE AFD-20  
DAMPER IS  
PLACED BEHIND  
THE LOUVER.

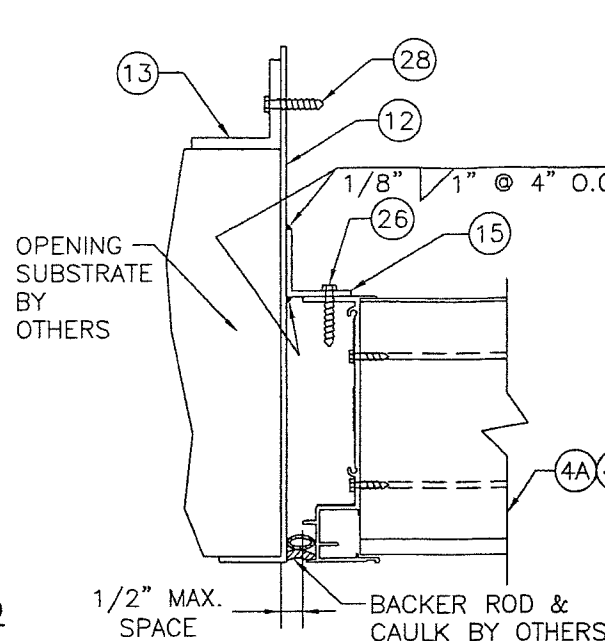


OPTIONAL BLADE  
SUPPORT BRACKET  
DETAIL WITH SCREWED  
END CONSTRUCTION

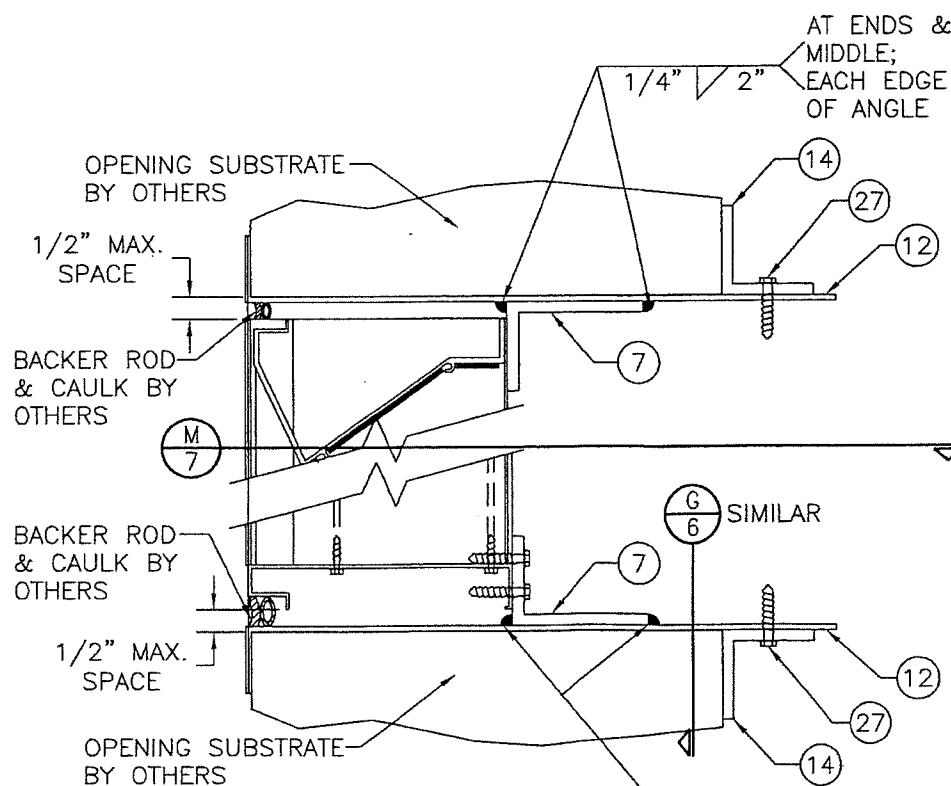


SECTION K  
SCALE: 3"=1'-0"  
(SLEEVE MOUNT CONDITION)  
(FOR LOUVER DETAIL NOT SHOWN, SEE SECTION A1/4  
OR A2/4)

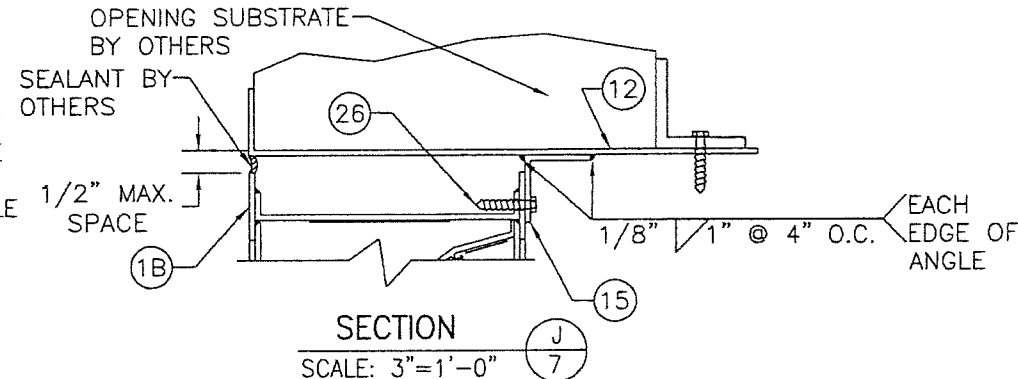
**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 20-0622.23  
Expiration Date 04/22/2024  
By *[Signature]*  
Miami-Dade Product Control



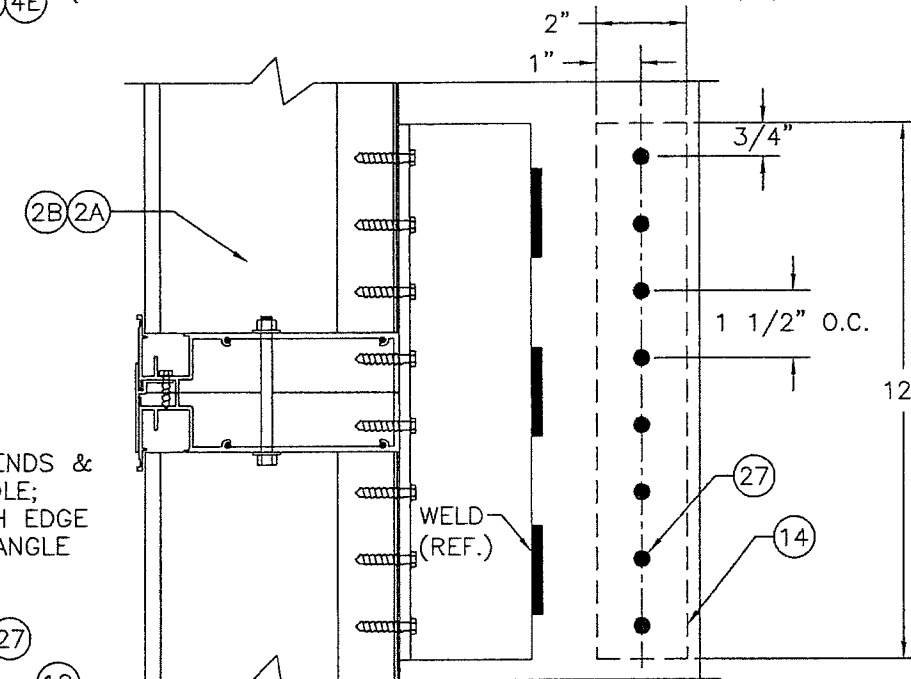
SECTION H  
SCALE: 3"=1'-0"  
(SLEEVE MOUNT CONDITION)  
(FOR LOUVER DETAIL NOT SHOWN, SEE SECTION C1/5)



SECTION M  
SCALE: 3"=1'-0"  
(SLEEVE MOUNT CONDITION)  
(FOR LOUVER DETAIL NOT SHOWN, SEE SECTION E1/6)



SECTION J  
SCALE: 3"=1'-0"  
(SLEEVE MOUNT CONDITION AT RADIUS)  
(FOR LOUVER DETAIL NOT SHOWN, SEE SECTION C5/5)



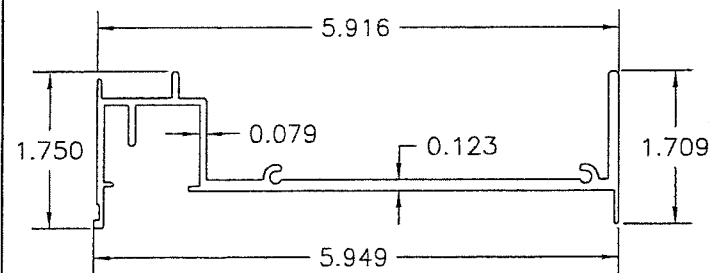
SECTION M  
SCALE: 3"=1'-0"  
(FOR LOUVER DETAIL NOT SHOWN, SEE SECTION F1/6)

PART 7 & 15 MAY BE POSITIONED  
WITH LEG TURNED OUT AS SHOWN  
IN THESE SECTIONS OR WITH LEG  
TURNED UNDER THE LOUVER

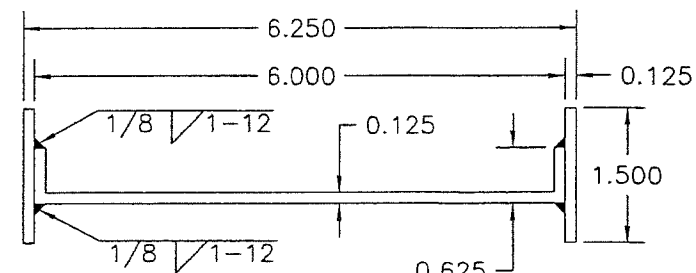
**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 19-0306.04  
Expiration Date 04/22/2024  
By *[Signature]*  
Miami-Dade Product Control

DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1=4	DATE: 12/02/05
DATE	BY
REVISION DESCRIPTION	NO.
<p><b>DRAWING TITLE</b> A320 LOUVER SYSTEM</p> <p><b>MANUFACTURER</b> AIR BALANCE, A DIVISION OF MESTEK, INC. 450 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888</p> <p><b>CONSULTANTS</b> W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424</p> <p><b>CERTIFICATION</b> STATE OF FLORIDA APR 02 2019 WARREN W. SCHAEFER, P.E. P.E. NO. 44135</p>	
<b>DRAWING NO.</b> 1465	<b>REV.</b> C
<b>SHEET NO.</b> 7	<b>OF 15</b>

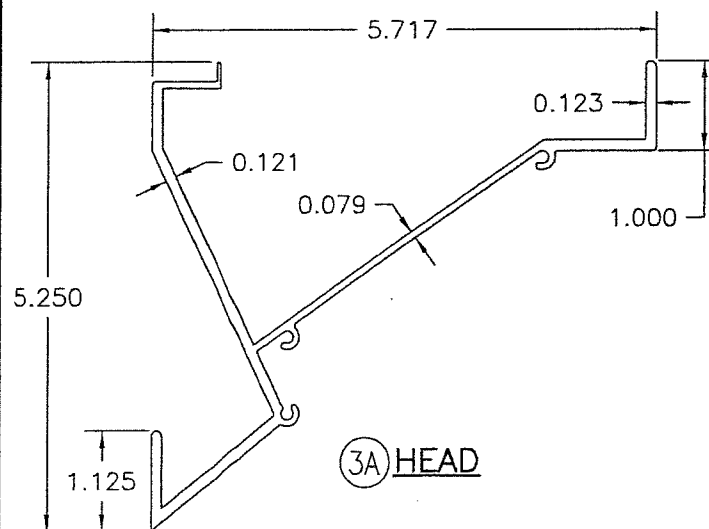




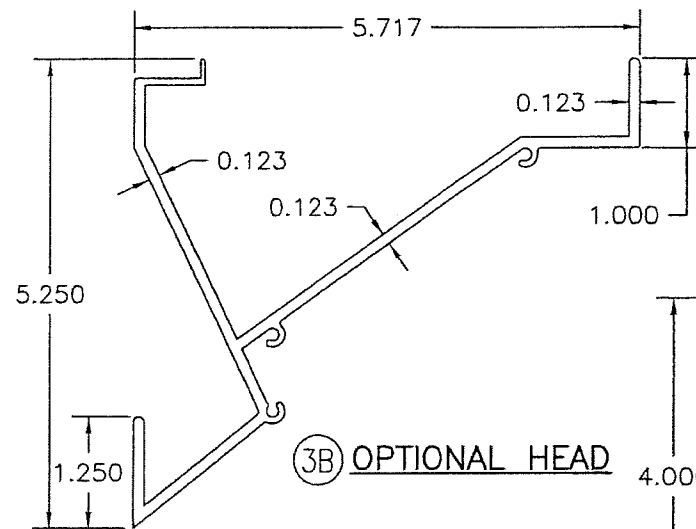
1A STANDARD  
STRAIGHT JAMB



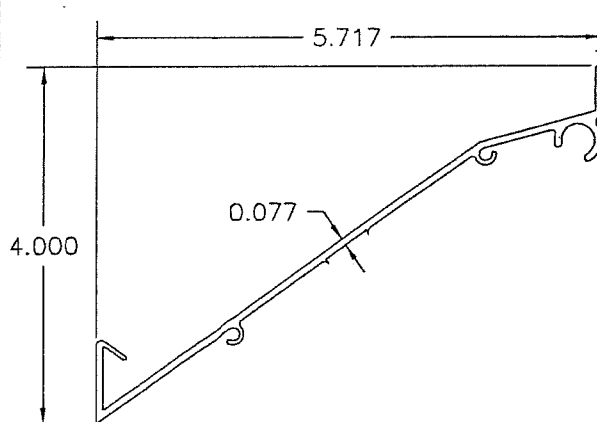
1B RADIUS JAMB



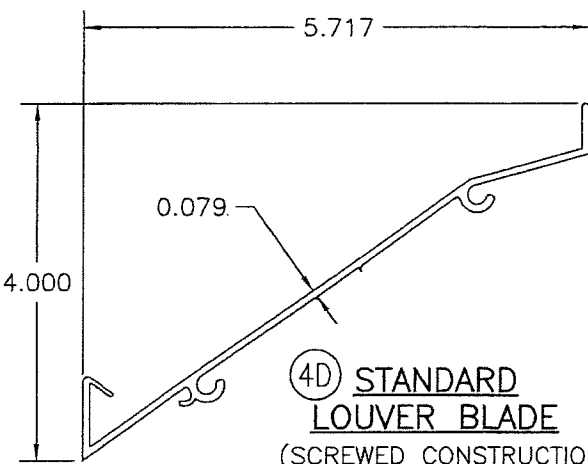
3A HEAD



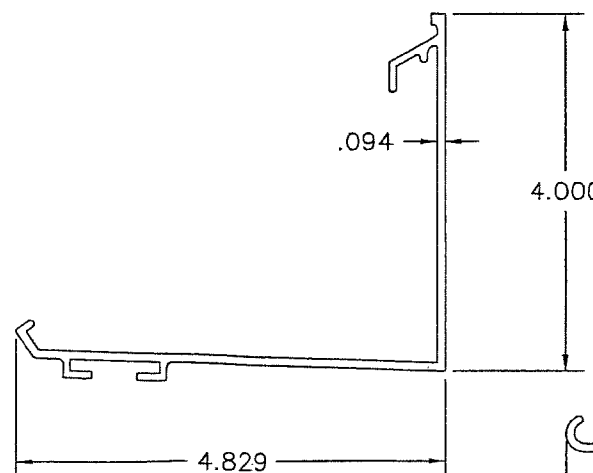
3B OPTIONAL HEAD



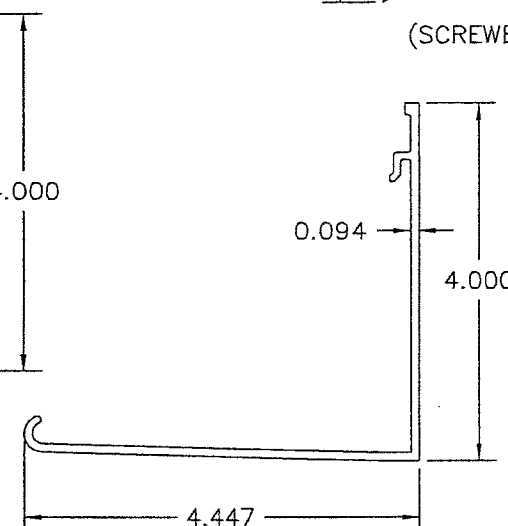
4C WATER RESISTANT  
LOUVER BLADE  
(SCREWED & WELDED CONSTRUCTION)



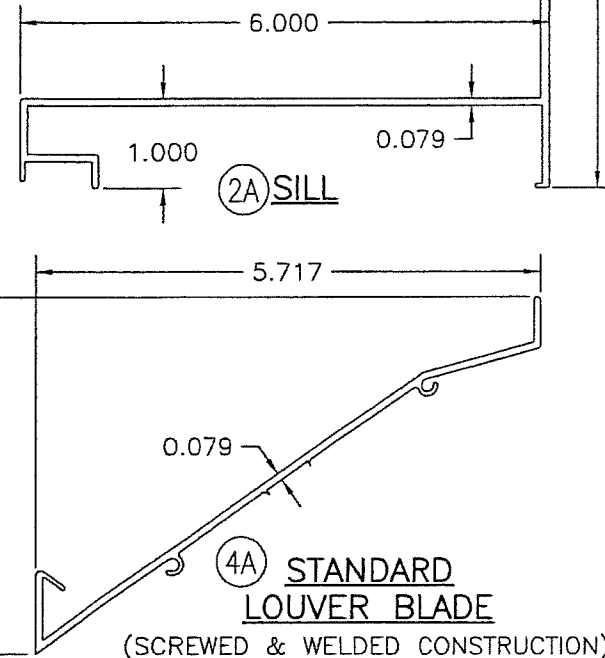
4D STANDARD  
LOUVER BLADE  
(SCREWED CONSTRUCTION)



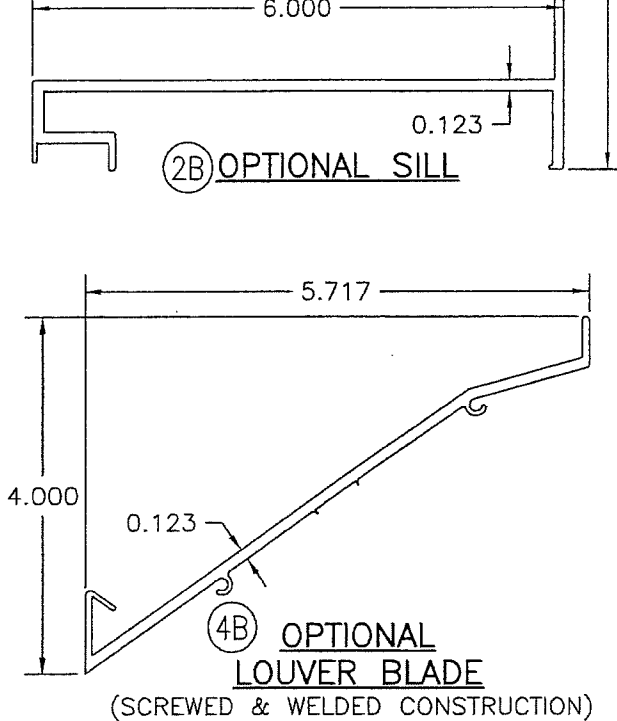
5A BLADE SUPPORT  
BRACKET  
(SCREWED CONSTRUCTION)



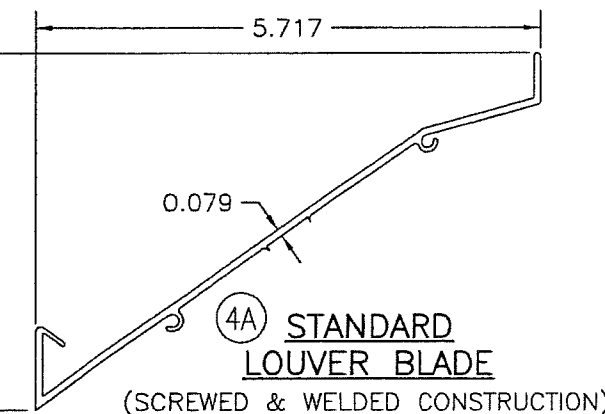
5 BLADE SUPPORT  
BRACKET  
(SCREWED & WELDED CONSTRUCTION)



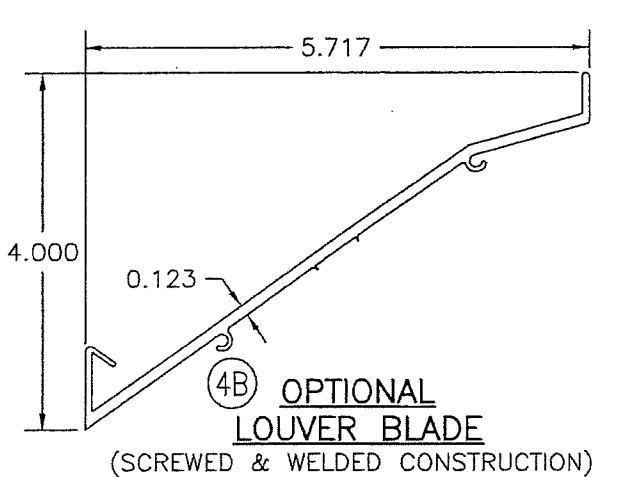
2A SILL



2B OPTIONAL SILL



4A STANDARD  
LOUVER BLADE  
(SCREWED & WELDED CONSTRUCTION)



4B OPTIONAL  
LOUVER BLADE  
(SCREWED & WELDED CONSTRUCTION)

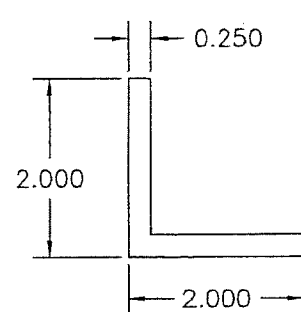
**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 20-0622.23  
Expiration Date 04/22/2024  
By *R. P. Hines*  
Miami-Dade Product Control

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 19-0306.04  
Expiration Date 04/22/2024  
By *R. P. Hines*  
Miami-Dade Product Control

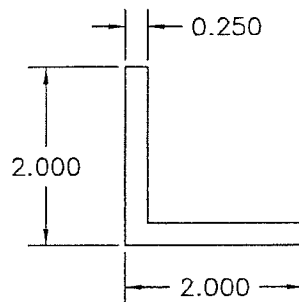
DRAWN BY: W.R.M.		CHECKED BY: W.W.S.	
PLOT: 1=2		DATE: 12/02/05	
DATE	BY	REVISION DESCRIPTION	NO.
DRAWING TITLE: A320 LOUVER SYSTEM			
MANUFACTURER: AIR BALANCE, A DIVISION OF MESTEK, INC. 450 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888			
CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424			
CERTIFICATION: APR 02 2019 WARREN W. SCHAEFER, P.E. P.E. NO. 44135			
DRAWING NO. 1465		REV. C	
SHEET NO. 8 OF 15			

ITEM #	ITEM DESCRIPTION	MANUFACTURER/NOTES
PARTS		
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
FASTENERS		
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.
SEALS & SEALANTS		
32	BULB SEAL	MCL 743091

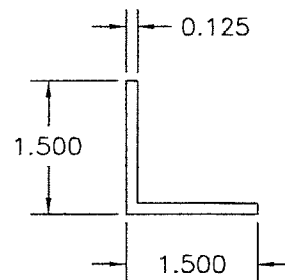
(1) PARTS 4C & 10 SHALL BE USED IN PLACE OF PART 4A OR 4B WHEN LOUVER IS REQUIRED TO RESIST WATER PENETRATION.



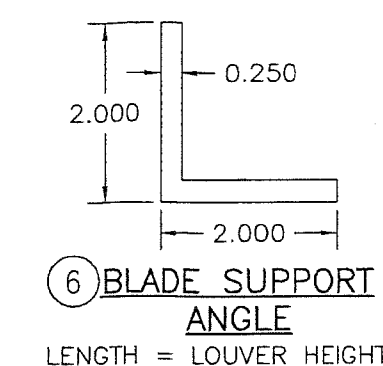
13 CONTINUOUS MOUNTING ANGLE



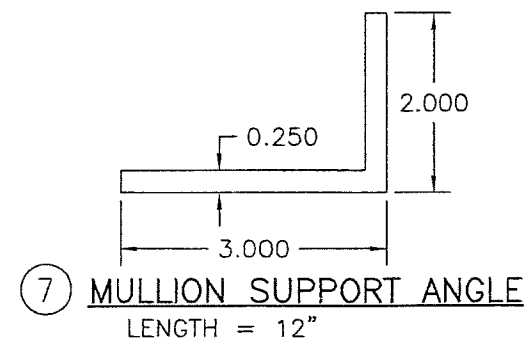
14 MULLION END SUPPORT ANGLE  
LENGTH = 12"



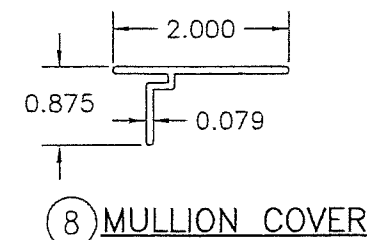
15 CONTINUOUS MOUNTING ANGLE



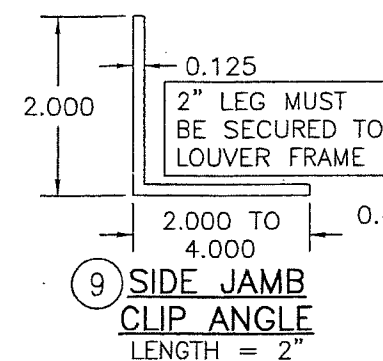
6 BLADE SUPPORT ANGLE  
LENGTH = LOUVER HEIGHT



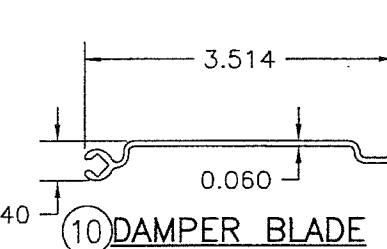
7 MULLION SUPPORT ANGLE  
LENGTH = 12"



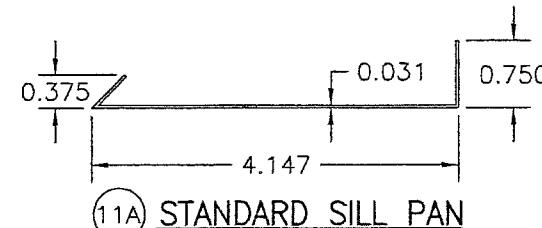
8 MULLION COVER



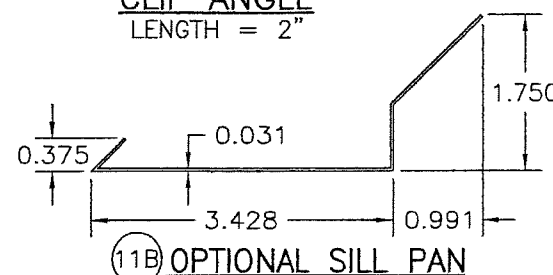
9 SIDE JAMB CLIP ANGLE  
LENGTH = 2"



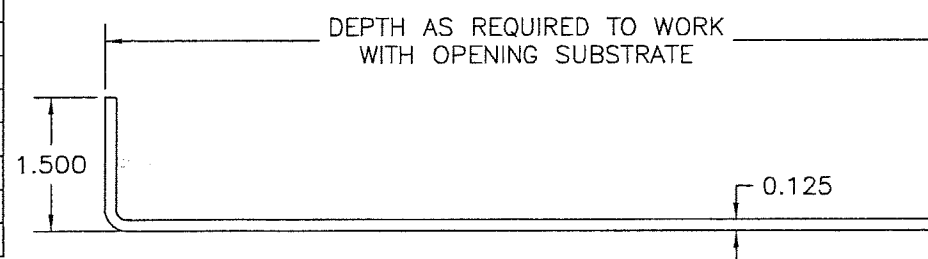
10 DAMPER BLADE



11A STANDARD SILL PAN



11B OPTIONAL SILL PAN

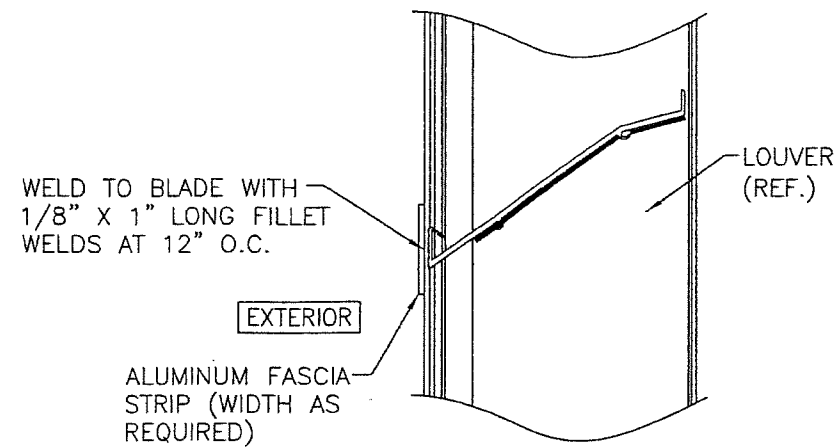
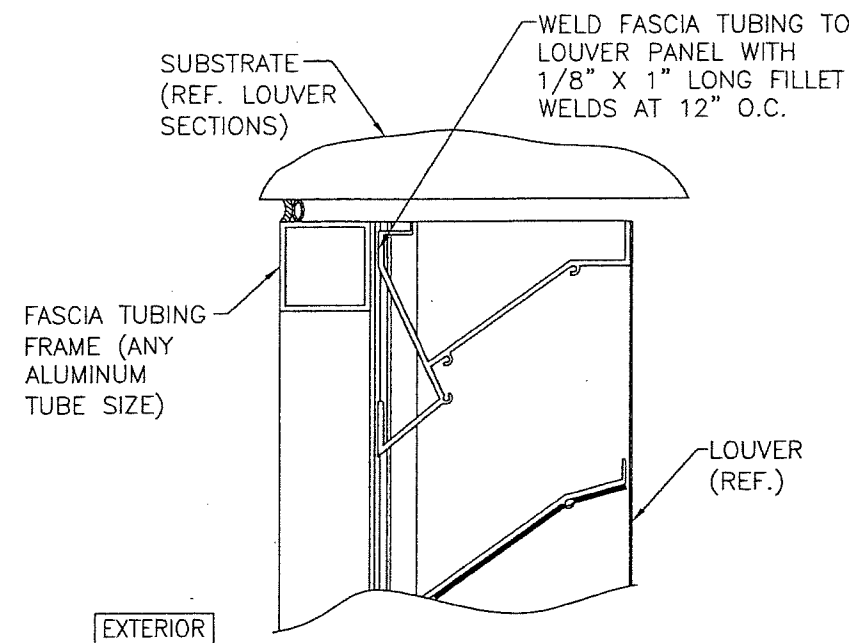


12 MOUNTING SLEEVE  
(CONTINUOUS AT ALL SIDES; WELDED AT CORNERS)

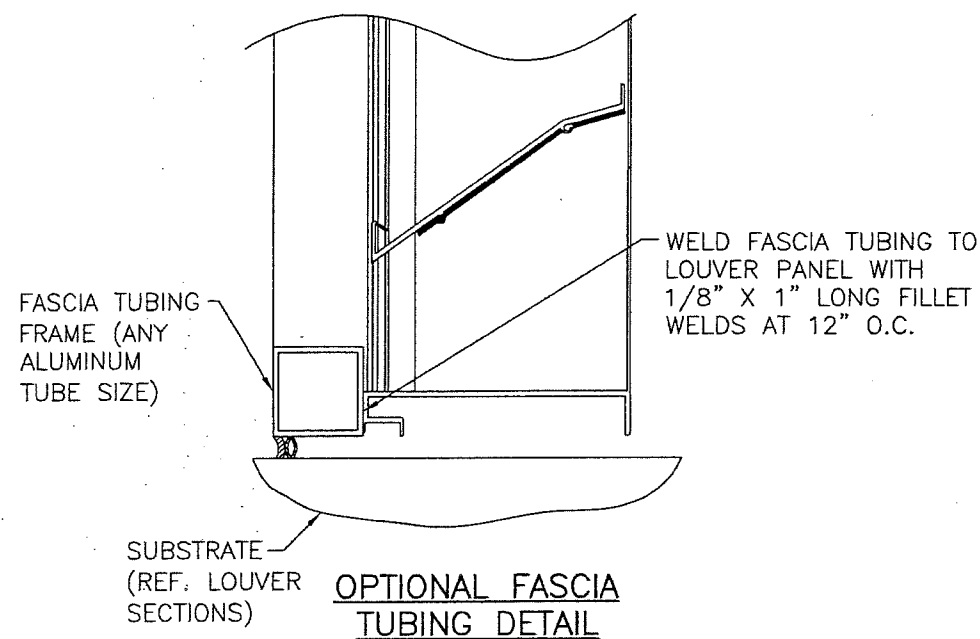
**PRODUCT REVISED**  
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Building Code  
NOA-No. 20-0622.23  
Expiration Date 04/22/2024  
By *[Signature]*  
Miami-Dade Product Control

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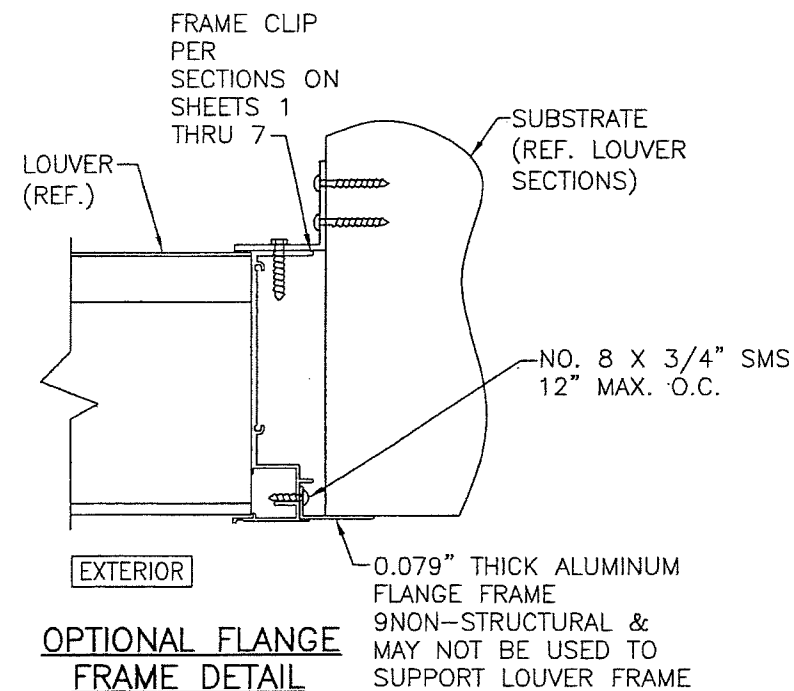
DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1=2	DATE: 12/02/05
DATE	BY
REVISION	DESCRIPTION
NO.	
AIR BALANCE: A DIVISION OF MESTEK, INC. 450 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888	
A320 LOUVER SYSTEM MANUFACTURER CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424	
CERTIFICATION APR 02 2019 WARREN W. SCHAEFER, P.E. P.E. NO. 44135	
DRAWING NO. 1465	REV. C
SHEET NO. 9 OF 15	



OPTIONAL FASCIA STRIP DETAIL



OPTIONAL FASCIA TUBING DETAIL



OPTIONAL FLANGE FRAME DETAIL

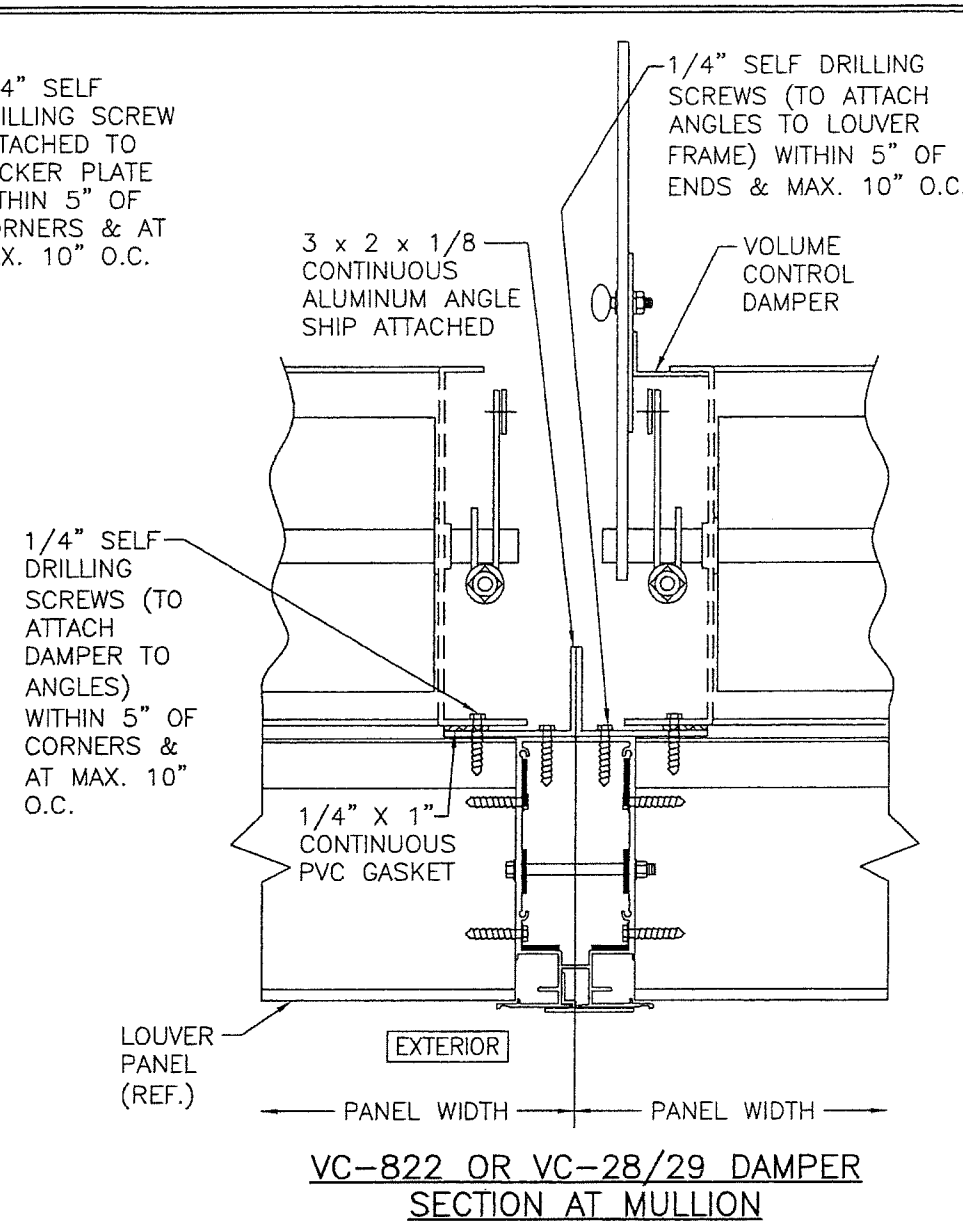
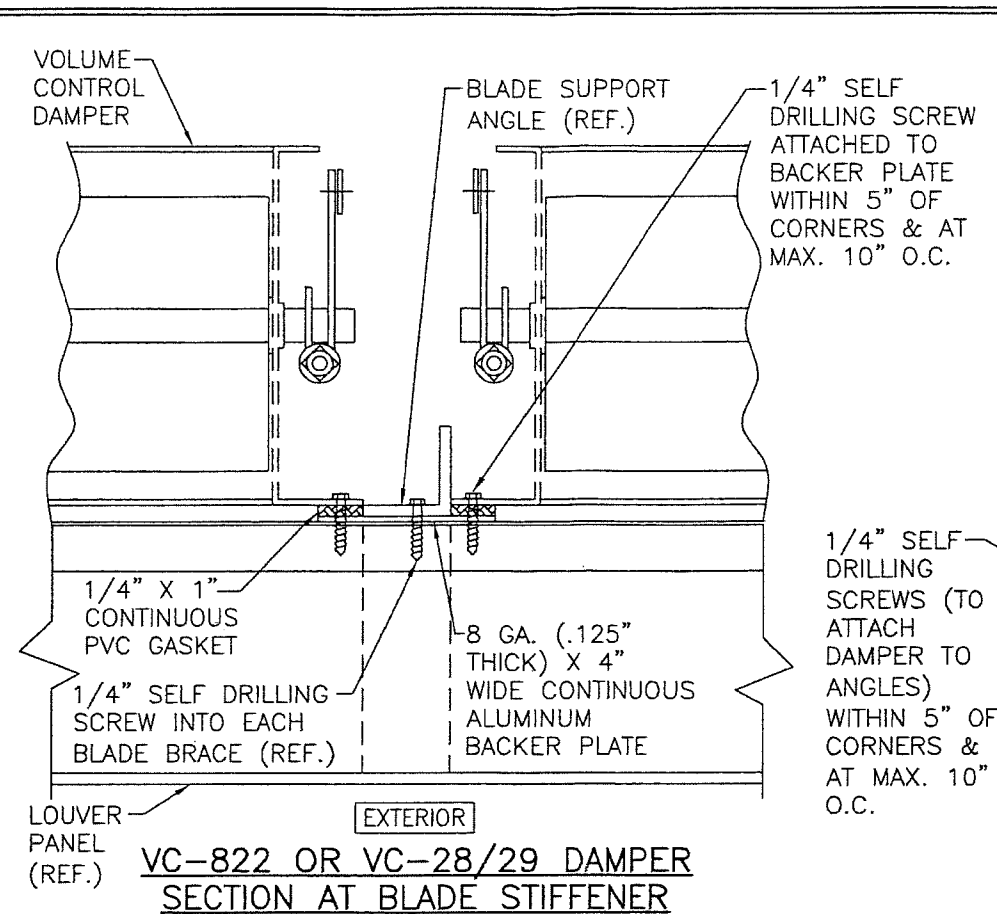
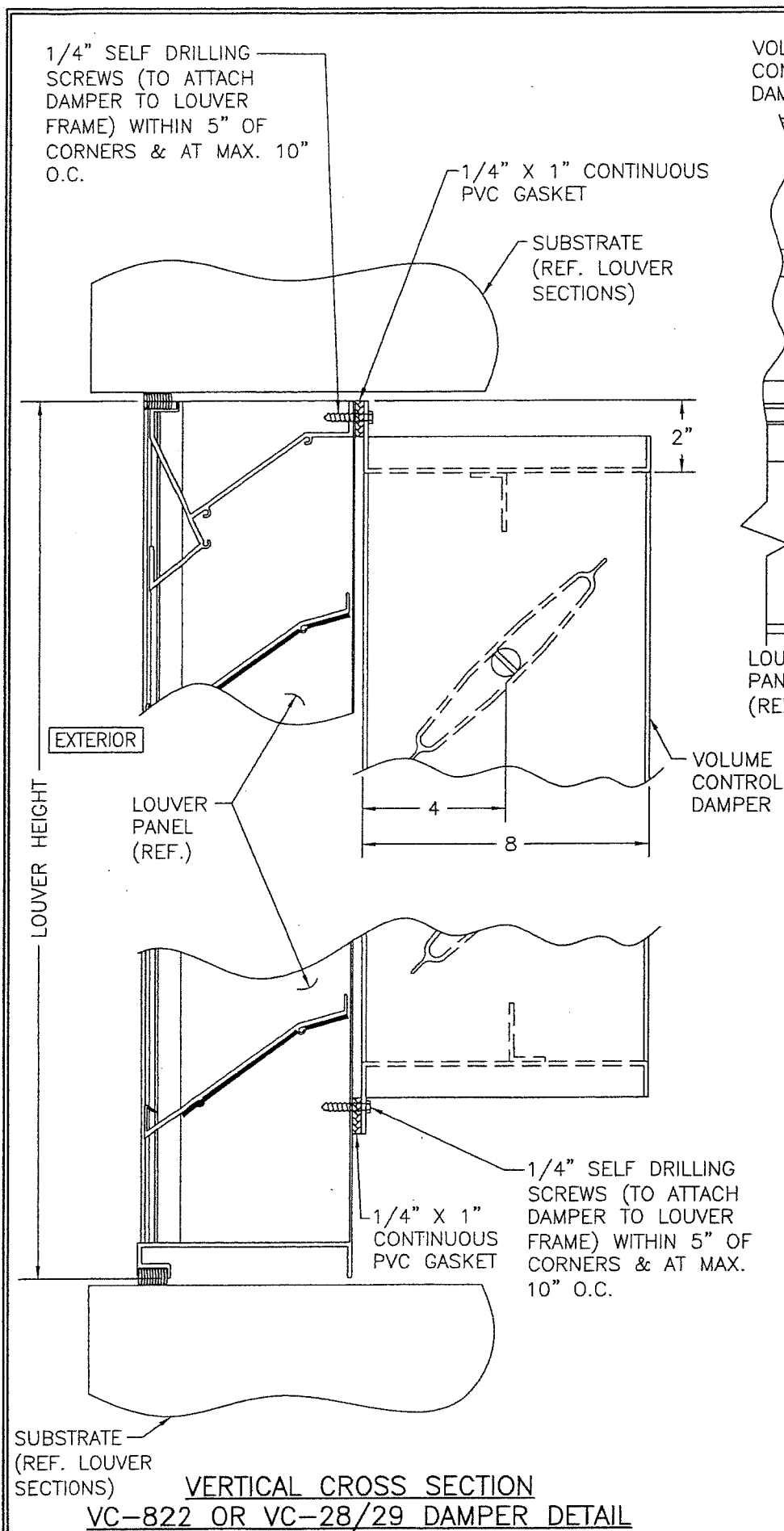
FOR LOUVER DETAILS, SEE SHEETS 1-9

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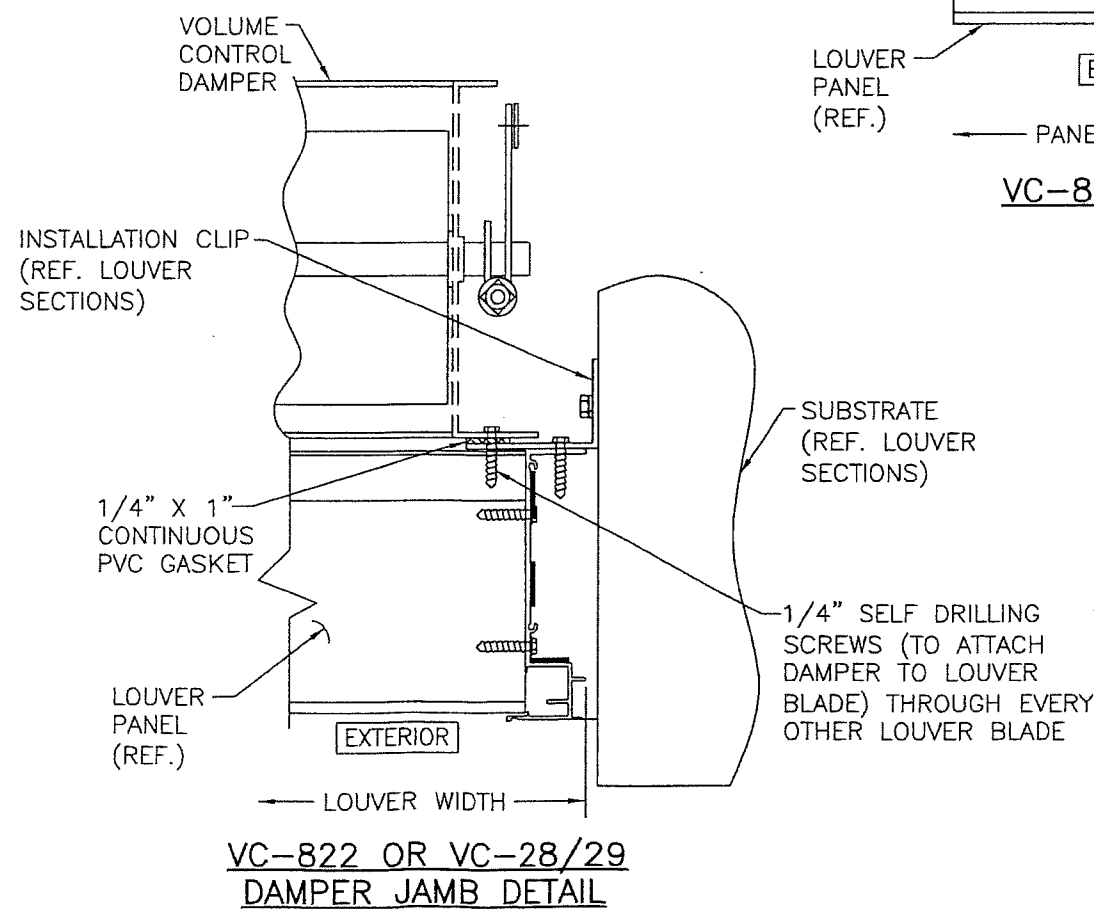
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DRAWN BY: W.R.M.		CHECKED BY: W.W.S.	
PLOT: 1=4		DATE: 12/02/05	
DATE	BY	REVISION DESCRIPTION	NO.
<p>DRAWING TITLE: A320 LOUVER SYSTEM</p> <p>MANUFACTURER: AIR BALANCE: A DIVISION OF MESTEK, INC. 450 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888</p> <p>CONSULTANTS: W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424</p> <p>CERTIFICATION: APR 02 2019 W. W. SCHAEFER, P.E. P.E. NO. 44135</p> <p>DRAWING NO. 1465 REV. C</p> <p>SHEET NO. 10 OF 15</p>			





FOR LOUVER DETAILS,  
SEE SHEETS 1-9



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PLT: 1=4	DATE: 12/02/05
DATE	BY
REVISION DESCRIPTION	NO.
<p><b>A320 LOUVER SYSTEM</b></p> <p>CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. (CA 6809)</b> 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424</p> <p>MANUFACTURER <b>AIR BALANCE, A DIVISION OF MESTEK, INC.</b> 450 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888</p>	
CERTIFICATION	STATE
APR 02 2019	WARREN W. SCHAEFER, P.E. P.E. NO. 44135
DRAWING NO. 1465	REV. C
SHEET NO. 11 OF 15	

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

SUBSTRATE  
(REF. LOUVER  
SECTIONS)

1/4" X 1"  
CONTINUOUS  
PVC GASKET

LE42V  
STORM  
LOUVER

EXTERIOR

LOUVER  
PANEL  
(REF.)

LOUVER HEIGHT

4"

1/4" X 1"  
CONTINUOUS  
PVC GASKET

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

SUBSTRATE  
(REF. LOUVER  
SECTIONS)

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.

3 x 2 x 1/8  
CONTINUOUS ANGLE  
SHIP ATTACHED

LE42V STORM  
LOUVER

1/4" X 1"  
CONTINUOUS  
PVC GASKET

LOUVER  
PANEL  
(REF.)

EXTERIOR

PANEL WIDTH

LE42V STORM LOUVER  
SECTION AT MULLION

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

2 x 2 x 1/4  
MULLION ANGLE

LE42V  
STORM  
LOUVER

1/4" X 1"  
CONTINUOUS  
PVC GASKET

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

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

LOUVER  
PANEL  
(REF.)

EXTERIOR

LE42V STORM LOUVER  
SECTION AT BLADE STIFFENER

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

LE42V STORM  
LOUVER

1/4" X 1"  
CONTINUOUS  
PVC GASKET

LOUVER  
PANEL  
(REF.)

EXTERIOR

LOUVER WIDTH

LE42V STORM LOUVER  
JAMB DETAIL

INSTALLATION CLIP  
(REF. LOUVER  
SECTIONS)

SUBSTRATE  
(REF.  
LOUVER  
SECTIONS)

FOR LOUVER DETAILS,  
SEE SHEETS 1-9

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PLOT: 1=4		DATE: 12/02/05	
NO.	REVISION	DESCRIPTION	DATE
<p>DRAWING TITLE: <b>A320 LOUVER SYSTEM</b></p> <p>MANUFACTURER: <b>AIR BALANCE; A DIVISION OF MESTEK, INC.</b> 450 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888</p> <p>CONSULTANTS: <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. (CA 6809)</b> 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424</p> <p>CERTIFICATION: <b>APR 02 2019</b> WARREN W. SCHAEFER, P.E. P.E. NO. 44135</p>			
DRAWING NO.		REV.	
1465		C	
SHEET NO.		12 OF 15	

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

SUBSTRATE  
(REF. LOUVER  
SECTIONS)

1/4" X 1"  
CONTINUOUS  
PVC GASKET

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

3 x 2 x 1/8  
CONTINUOUS ANGLE  
SHIP ATTACHED

DUCT TRANSITION  
SLEEVE FOR  
CONNECTION OF  
DUCTS TO  
LOUVER FRAME

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

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DATE	BY
REVISION DESCRIPTION	NO.
<p><b>DRAWING TITLE</b> A320 LOUVER SYSTEM</p> <p><b>MANUFACTURER</b> AIR BALANCE, A DIVISION OF MESTEK, INC. 450 RIVERSIDE DRIVE WYALUSING, PA 18853 570-746-1888</p> <p><b>CONSULTANTS</b> W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424</p> <p><b>CERTIFICATION</b> APR 02 2019 WAPREN W. SCHAEFER, P.E. P.E. NO. 44135</p>	
DRAWING NO. 1465	REV. C
SHEET NO. 13 OF 15	

EXTERIOR

LOUVER  
PANEL  
(REF.)

VARIES

DUCT TRANSITION  
SLEEVE FOR  
CONNECTION OF  
DUCTS TO  
LOUVER FRAME

LOUVER  
PANEL  
(REF.)

EXTERIOR

PANEL WIDTH

PANEL WIDTH

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

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

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

EXTERIOR

LOUVER  
PANEL  
(REF.)

DUCT TRANSITION SLEEVE  
SECTION AT BLADE STIFFENER

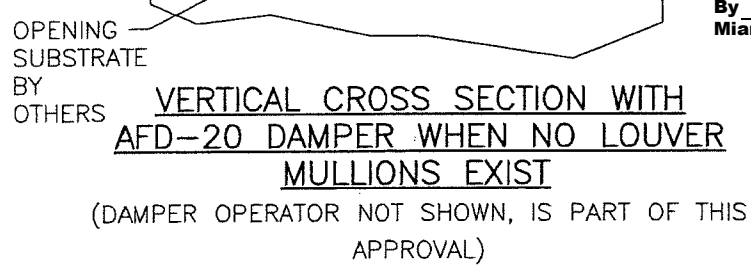
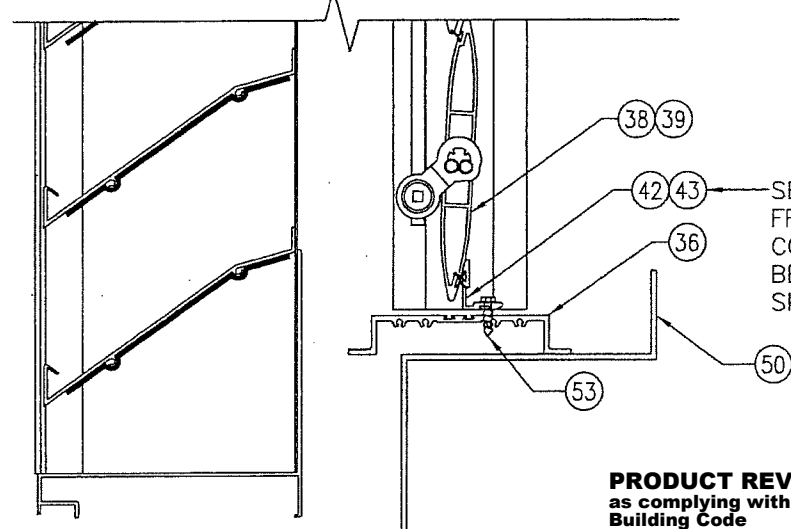
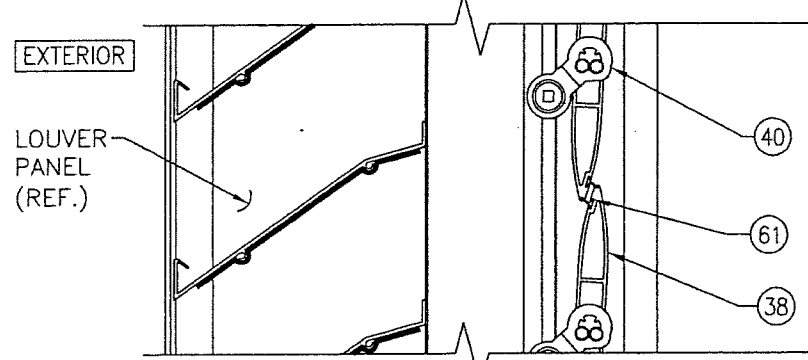
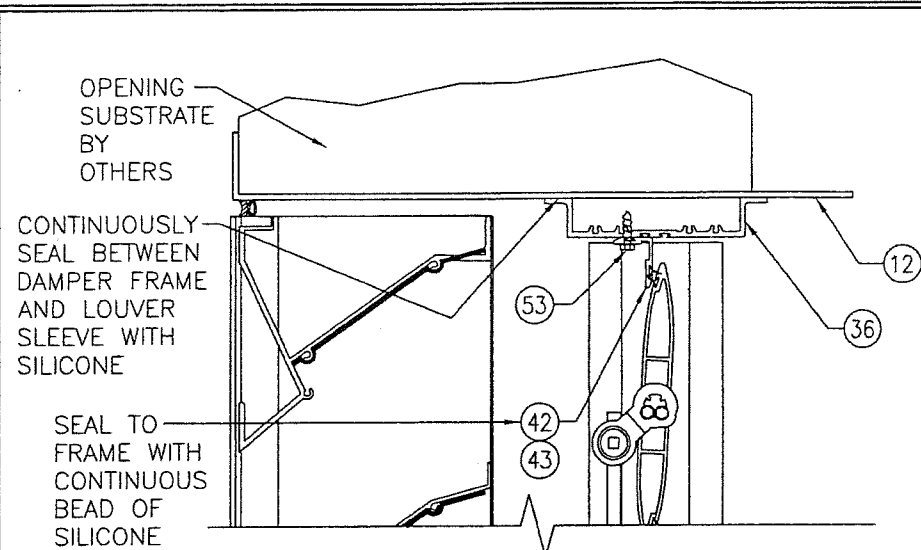
VERTICAL CROSS SECTION  
DUCT TRANSITION SLEEVE DETAIL

SUBSTRATE  
(REF.  
LOUVER  
SECTIONS)

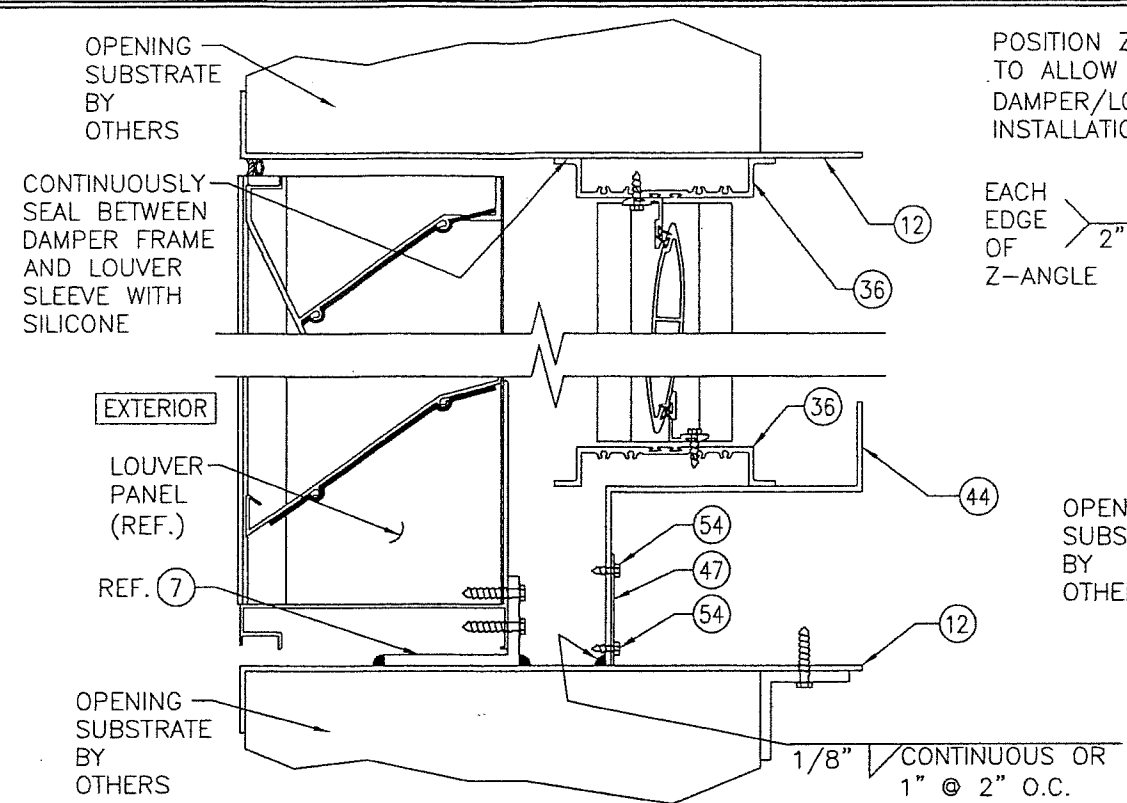
1/4" X 1"  
CONTINUOUS  
PVC GASKET

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

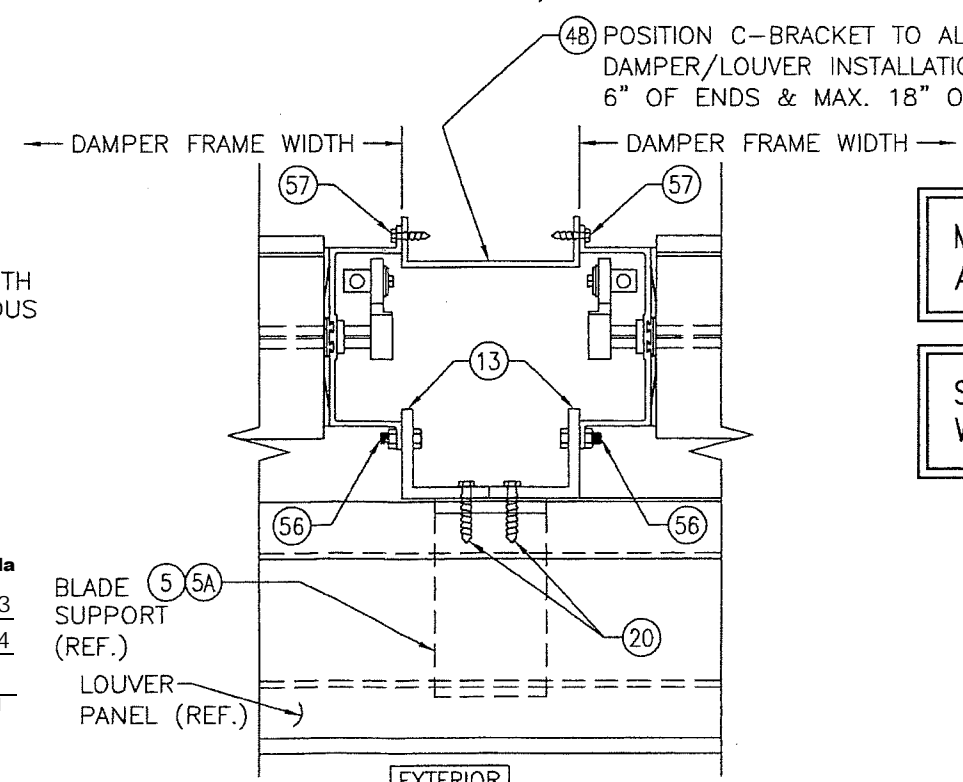




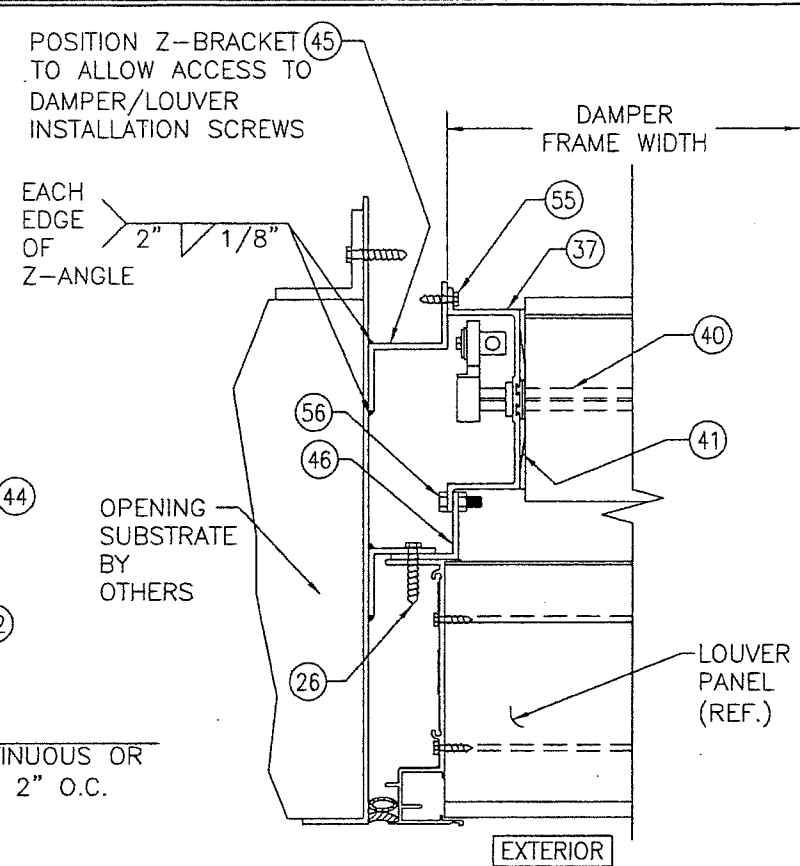
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**VERTICAL CROSS SECTION WITH  
AFD-20 DAMPER WHEN LOUVER MULLION EXISTS**  
(FOR DAMPER DETAIL NOT SHOWN, SEE OTHER VERTICAL CROSS  
SECTION ON THIS SHEET)



**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)



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

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

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NO.	DATE	BY	REVISION DESCRIPTION
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DRAWING TITLE <b>A320 LOUVER SYSTEM</b>			
CONSULTANTS <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. (CA 6809)</b> 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424			
CERTIFICATION <b>APR 02 2019</b> WARREN W. SCHAEFER, P.E. P.E. NO. 44135			
DRAWING NO.	REV.		
1465	C		
SHEET NO.			
14 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

**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 AWV
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

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**CONSULTANTS**  
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7480 150TH COURT NORTH  
PALM BEACH GARDENS, FL 33418  
PHONE: 561-744-3424

**MANUFACTURER**  
AIR BALANCE; A DIVISION OF MESTEK, INC.  
450 RIVERSIDE DRIVE  
WYALUSING, PA 18853  
570-746-1888

**CERTIFICATION**

STATE OF FLORIDA

WARREN W. SCHAEFER, P.E.

NO. 44135

DATE: 04/22/2024

DRAWING NO. 1465

SHEET NO. 15 OF 15

REV. C